AN ANALYSIS OF

THE RELEVANCE OF THE BRITISH URBANIZATION PROCESS and THE NEW TOWNS PERFORMANCE CHARACTERISTICS TO THE URBANIZATION PROBLEM OF DEVELOPING COUNTRIES

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I hereby declare that this Thesis embodies the results of my own special work, and that it has been composed by myself.

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date 18 December 1973.

ABSTRACT OF THESIS

Title: An analysis of the relevance of the British urbanization process, and the New Towns performance characteristics, to the urbanization problem of developing countries.

Over the past 25 years, the problem of the increase of population in urban areas throughout the developing countries has been acknowledged by the international development agencies as reaching crisis dimensions; "it could put whole societies into a terminal crisis of social and economic disintegration".

This thesis endeavours to identify whether the British process of urbanization, which led to the Government accepting responsibility for planned land use and urban planning for the whole country, along with a direct participation in the planning, financing, construction, and management of new towns, (to provide both a "better alternative to thousands of families living in depressed urban circumstances", and a better distribution of industrial undertakings to sites which permit higher levels of efficiency), is relevant to the problem now prevailing in developing countries. Britain has been through the same urbanization problem as that in which many of the developing countries find themselves today.

Part I, Chapter 1, examines the way in which the word 'urbanization' is being commonly used today, and finds it evasive in exactitude. The words 'city', 'urban', and 'urbanization' "have long escaped scholarly scrutiny; their very definitions are still under debate". The absence of a universal agreement on the exact meaning and usage of the word 'urbanization' inhibits the use of quantitative techniques in the formulation of appropriate solutions.

Chapter 2 examines what is termed 'the rapid urbanization problem of the developing countries'. The U.N. demographers estimate that the urban population in those countries in 1960 amounted to some 310 million, (15% of total), and by 2000 A.D., i.e., 26 years from now, the number is expected to increase to 1436 million, or 31% of total. Other international research institutes have estimated that the urban population in developing countries is more likely to be 4000 million, or 66% of the total population, by 2000 A.D. The enigma of providing the qualitative and quantitative needs for a rapidly increasing urban population, bearing in mind

the present state of poverty which prevails in many of these countries, is examined, along with a system by which a Government can use the controllable forces of the urbanization process to generate a process of positive (and cumulative) cyclical interaction of cause and effect, which will provide the resources needed to satisfy the housing and urban needs of an increasing urban population.

Chapter 3 gives the results of an investigation into, and some quantitative indication of, the realities of the urbanization problem in a developing country during decade '60'; Greater Manila in the Philippines is used as a case study.

Part II, Chapters 4-7, reviews the urbanization process of the U.K. from earliest time, through pre-industrial to industrial urban Britain, leading to the New Towns Act. In particular, Chapter 6 analyses, and correlates, the economic growth rate with industrial urban growth over the 19th century, and part of the 20th century, i.e., until 1970.

Part III, Chapter 8, identifies the performance characteristics of the British New Towns, which show that, on average, after 25 years, the population will have increased by 44,000; capital investment of £42 million will have been made from Treasury loans; £33 million will have been paid to the Government as accrued interest, and approximately 3% of the capital advances will have been repaid. Some 11,500 industrial jobs, (64% of total employed) will have been created, i.e., total employment generated will be for 18,000, which in turn, adds many multiplier benefits to the local economy. Using national indicators for value of product per worker per annum, far from "placing an additional burden on the economy as a whole", the average new town of 44,000 persons would have contributed some £300^{+}million in value of production to the national income over the 25 years, approximately £100^{+}million of which would have been returned to Government income in the form of taxes. The real value of the fixed assets at the end of the same period would be very much more than the £42 million invested by the new town corporation.

The information system available at present for monitoring the financial performance of the British new towns is regarded as inadequate, and Chapter 9 discusses the context within which, by using the 'systems engineering' approach, a more adequate information system might be devised.

Part IV, Chapter 10, examines three examples of new towns, or new communities, which have been used by developing countries to meet the rapid urbanization problem; (a) the new town of Tema in Ghana, modelled after the British example; (b) a proposal for planned new communities within the city-region concept of Greater Manila, illustrating some of the difficulties involved in a real-world situation; (c) a new community for the poor in Rio de Janeiro, which was subsequently modified to the British example.

Chapter 11 correlates and analyses the evidence presented in the preceding sections, and draws conclusions as to the extent to which the British urbanization process and the new towns, (as instruments for improving the quality of urban life and the national economy), are relevant to the urbanization problem in developing countries.

ACKNOWLEDGEMENTS

The Social Science Research Council, in recent years, has recommended that Ph.D. studies should endeavour to contribute to a better understanding between the social science disciplines, without losing the quality of the depth of study in the chosen subject.

By necessity, "urbanization", from a planner's point of view, requires such an approach. Several scholars from the different disciplines involved have very kindly given their time and advice in reviewing the separate parts, all of which are finally synthesized into a recognizable subject, "urbanization", in this thesis.

In particular, the candidate wishes to acknowledge the advice and help given by Professor P.E.A. Johnson-Marshall, who has a unique knowledge and experience of the planning system in the U.K. and in developing countries; Dr. R. Willis, anthropologist, and Dr. Henry Ord, economist, both of the Centre of African Studies, who have been personally involved in the developing countries and their problems; Professor Michael Flinn, University of Edinburgh, who reviewed with thoroughness that part of the thesis relating to the economic and social history of Britain; Mr. Frank Schaffer, Secretary to the Commission on New Towns, who very kindly examined the validity of that part dealing with the performance characteristics of the British New Towns, and the method of measuring the contribution new towns make to the economy as a whole; Professor George Chadwick, University of Newcastle, who, though seeing "the intention to model the whole system within which New Towns are set to be a pretty enormous undertaking", concludes that the problem may be capable of simplification, and suggests that it would respond to a Systems Dynamics treatment, similar to some of the work already being undertaken in the IBM/Newcastle regional model; Mr. James Eustace, University College, Dublin, statistician and economist, who very kindly verified the statistical method used for the analysis of the British new towns data, and the analysis of the source of investment capital for the fixed assets of the built environment in the context of the national cash flow; Dr. G. Stacey, Mr. C. MacArthur, and Miss Alison Finch, Edinburgh Regional Computing Centre, for their help and collaboration in testing the feasibility of part of the 'model' of the whole system, and the computer programmes for analysing the data on the

British new towns; Professor R. L. Barclay, Dean of the Faculty of Architecture, University of Science and Technology, Kumasi, Ghana, for making it possible to visit Ghana and study the realities of the new town situation at Tema; to the United Nations Organization in general, but in particular, for the knowledge and experience acquired in this subject whilst U.N. Planning and Housing Adviser to the Philippines, to both the national housing corporation and the Office of the President, 1962-1966, and U.N. Planning and Housing Adviser, National Housing Bank and Ministry of the Interior, 1967-1970, in Brazil.

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Chapter 2. The Urbanization Problem of Developing Countries.

Estimates from acknowledged sources of urban population changes for the world have been collated and analysed. The quantitative aspects of supply and demand which are likely to result from the high rate of increase of population in the urban centres in the developing countries in the immediate future, are discussed.

The problem of accruing savings from poverty for investment into the urbanization process in developing countries, and a method by which the increasing urban population can be involved, and can be encouraged to contribute to, and participate in, the urban development of the countries, are also discussed.

Chapter 3. The Reality of the Urbanization Process in Developing Countries.

The urbanization problem pertaining to the reality of the situation in Greater Manila, (and the Philippines, generally), is analysed in quantitative terms.

CHAPTER I - WHAT DOES 'URBANIZATION' MEAN?

Introduction

During the past two decades, the shift of population from the rural areas to the urban centres in 'developing' countries[1] has greatly accelerated, and is now posing a major problem for urban planners and administrators. Although the average rate of increase for the towns and cities in countries which are members of the World Bank Group is 4% per annum,[2] the average for the larger cities in these countries is 6% per annum; the number already crowded into urban squatter colonies is approximately 80 million people now, and their numbers are increasing annually, as shown in Diagram No. 7, p. 48.

Although there is concern for the welfare of this sector of the increasing urban population in the developing countries, there is more concern for the detrimental effect which the relentless tide of poor rural migrants is having on these towns and cities, especially if we acknowledge the tenet that the cities are the instruments for promoting economic growth with which to sustain the increasing urban population. On present trends, and in the absence of positive solutions to meet the problem, (which is generally known as the problem of rapid urbanization), many of the towns and cities are being frustrated in their efforts to sustain economic growth.

The administrative and political system for providing the incentives to attract investment capital to expand the local economy, or to create employment opportunities for this large increase of urban population each

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(1) The U.N. publication, World Population Prospects, as Assessed in 1963, (DESA, Population Studies No. 41), points out that there is no commonly agreed yardstick by which degrees of development (economic, social, cultural, etc.) are to be measured. However, no other criterion, be it per capita income, urbanization, literacy, industrialization, etc., defines the dichotomy between "developed" and "developing" countries so sharply as the level of fertility. Where the G.R.R. (i.e., Gross Reproduction Rate, the average number of daughters which would be borne per woman surviving to the end of her reproductive period in accordance with prevailing age-specific fertility rates) is greater than 2, the country is almost invariably a "developing" one; where G.R.R. is less than 2, it is almost invariably "developed". The G.R.R. of the developing countries is within the range of 2.2 to 3.5, whereas the G.R.R. for developed countries is in the range of 1.0 to 1.8.

(2) See Table 5, p.37, of this thesis.

year, and integrate these in-migrants as fully participating, tax-paying citizens, is proving difficult to apply, for various reasons. Many of the rural migrants are nearly destitute on arrival in the towns and cities, and are often at a disadvantage through illiteracy. They make their own shelters from any scrap material which they can scavenge, setting up these shelters on any land which is not occupied, irrespective of the legitimate ownership of the land; large colonies of squatters have already been established throughout most of the cities in the developing countries. As these families are not property-owners, and are desperately poor, they pay neither income tax nor rates, and invariably receive little in the way of public facilities from the local authority; usually, these urban squatter colonies are without environmental sanitation, and have access to only a limited water supply, with the result that endemic diseases and sickness, which also threaten the rest of the town, are prevalent. Most suffer from malnutrition, which only compounds the health problem, and keeps them trapped in the "cycle of poverty".(3)

Because of the mounting scale of the problem, and the detrimental effect which it is having on the economic growth of these countries, the urbanization problem of developing countries has been brought to the attention of the international development agencies, and the United Nations Organization.

The United Nations itself is involved in this problem; many of the 134 member countries have gained independence, (and have become members), only during the past 25 years. It is since they have attained independence and joined the U.N. that the 'rapid urbanization' phenomena has become a large scale problem, and one which justifies the concern of the international development agencies.

There is an indication that there is a correlation between a nation attaining independence, and rapid urbanization; perhaps it is a result of the endeavours by the government to accelerate economic growth, and in this process, the towns and cities are accorded highest priority for investment to change the basis of the national economy from agrarian to manufacturing processes. This, in itself, provides the incentives for people to shift to the urban centres.

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(3) See p.55 of this thesis - reference to Dr. Ragnar Nurske

Britain has been through this "urbanization problem" in its own economic and social history, as illustrated in Part II of this thesis. Another example is that of Brazil; twenty years after independence in 1889, the first 'favelas'[4] began to appear in Rio de Janeiro. Their appearance was caused by the shift of population from the rural areas to the urban centres, stimulated by the "coffee crisis", which caused much poverty for the rural people; the rural to urban shift continued thereafter to affect most of the other large towns and cities.

Several seminars and conferences have been called by the U.N. over the past 20 years to discuss the problem of urbanization in developing countries, but little positive direction or policy has been achieved, except to acknowledge the gravity of the problem. In the most recent findings,[5] the United Nations concede that:-

"(i) much of the existing political and administrative machinery in developing countries is inappropriate to cope with the problems of urbanization;

(ii) the Governments do not have the capacity to propose solutions to the urbanization problem because of its complexity, and the unprecedented nature of the problems; the difficulty of transferring the benefit of experience from one country to another; and the apparently high cost of implementing the only types of planning solutions which are being proposed."

It must be conceded that for the many developing countries in the United Nations, the reins of government have been taken over by an educated elite, or a military organization, only during the past 20 years, and they have before them the challenge of devising strategies and policies which will provide for national growth and development, in the face of low financial reserves, an increasing need for equipment, organization, and mobilization of human resources; most are restrained by the small capacity of the country to accumulate wealth from savings.

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(4) 'favela' is the term given to the urban squatter colony in Rio de Janeiro.

(5) U.N., "Urbanization: development policies and planning", International Social Development Review No. 1, N.Y. 1968, p.4.

It has taken 'developed' countries, such as Britain, centuries to arrive at their present state of urbanization; their economies are based on an urban economic and global trading system, rather than a land-owning agrarian system. The urban system itself functions because of the functioning of other, more specialized, institutionalized systems which have evolved over the centuries as a response to the challenge of the circumstances of the time. Each system can be recognized and described individually, such as that pertaining to the means of production and the occupational sectors of the society, labour relations and incomes, financing, banking, insurance, savings, trade and marketing, transport and communication, planning and controlling land use, designing and constructing the built urban environment, safeguarding levels of living and welfare, the financial capacity of local government and central government to support the total urban system of the country; all operate at the local level, as well as at national level.

There is a tendency for many of the decision-makers of the developing countries, (because of their education in America, Europe, or Britain), to follow, or at least, aspire to, the 20th century urban model of those countries. If we examine the history of the urban growth process of Britain, we find that many of these countries are presently in the same situation as that in which Britain was some 300 years ago. Any strategy which is being planned by these countries to achieve an urbanization level resembling that of Britain must include the means of accelerating the total process of institutionalizing all the systems which go to make the total urban system function in the context of national development. Once the objective is clear, the programme of action necessary to achieve it can be prescribed, and resources mobilized accordingly.

The urbanization problem of the developing countries today has been described in various ways, ranging from an "international urban crisis",(6) to a problem which is "not so much a measure of healthy, inevitable processes of modernization, (but one of) a pathological acceleration of urban cell creation which could put whole societies into a terminal crisis of social and economic disintegration".(7)

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(6) Thijsse, Professor J.P., "Urbanization in Developing Countries", International Union of Local Authorities, Report of a Symposium at Noordwijk, Netherlands, Dec. 1967, p.67.

(7) Ward, Barbara, Economist, Dec. 6, 1969, p.56.

This thesis postulates that the deterioration of the urban structure of the developing countries need not be inevitable; the crowding of millions into the urban structure is, however, inevitable because there is little restraint, nor is there a better alternative available, than for the rural poor to shift to the existing urban centres. Many of these people recognize that their own survival and advancement depends upon their collective action in a concentration of people, and that this, in itself, stimulates initiative and enterprize by which community groups provide for their own needs.

It is evident that the existing urban system of these countries is not capable of absorbing this huge influx of people as full participating citizens, and many of the city authorities are finding it increasingly difficult to adapt themselves to the changes which would be necessary to provide for this, as the U.N. findings[8] have determined.

But there are alternatives, one of which will be examined in this thesis, because it is a solution to which Britain turned, or to which it evolved, after 1000 years' experience in the urbanization process - that is, the programme of planning, building, and managing new towns.

From June 4 to June 9, 1973, the United Nations Centre for Housing, Building and Planning, and the Department of the Environment, U.K., jointly conducted an international seminar on the relevance of British New Towns to the urbanization problem of developing countries.[9]

The information which was made available to the seminar on the British new towns was inadequate for the purposes of properly evaluating their relevance to the urbanization problem of developing countries. There is no question of the British Government providing social financing or large ~~subsidies~~ grants from national budget for these new towns, 34 ⊗ of which are in progress. The government is acting towards the new town corporations as a building society would act towards a client, except that the amortization period is 60 years; interest is paid on the capital advances at the prevailing Central Bank rate of interest over this period of time. The Government receives a significant income in the form of income tax

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(8) op.cit., "urbanization", p.4.

(9) See U.N. Document, ESA/HBP/AC.9/48, for Seminar held at Church House, Westminster, London, S.W.1. (The candidate attended as an observer.)

⊗ Schaffer, F.; The New Town Story, Paladin, 1972, p. 276.

and V.A.T. from the value of production from these new towns, and will receive the return of the capital advanced for their construction. The new towns provide an incentive for private industrial investment, all of which contributes to the total economic growth process. Because of the absence of proper documentation on the performance characteristics of the British new towns over the past 25 years, this thesis examines more closely the characteristics pertaining to the British new towns, in an endeavour to establish some quantitative indicators, by which their relevance to the urbanization problem of developing countries can be evaluated on a better quantitative basis.

During the U.N. Seminar, it became apparent that the word "urbanization" was being used in a very flexible, almost nebulous way, with the delegates discussing the manifestation of the urbanization problem, speculating on the 'causes' of the problem, but most speakers evading a clear definition of what urbanization meant in the context of their discussion, and what it stands for in terms of a positive objective, to which the scientific method can be applied.

Determining exactly what 'urbanization' means, and its correct usage today, is itself, a pre-requisite for any study of the subject.

2. Derivation of the word 'urbanization'

The derivation of the word urbanization is 'urbs', (urbis, f)[10] meaning a walled town or city; from this stems the adjective urbanus, 'of a city', and urbani, 'the inhabitants of a city, the townsfolk'.

Presumably, both the words town and city had clear connotations of their own for the philologists of the day, and both, apparently, were closely related.

During the reign of the Stuarts, James I, in Britain, the word urban was used, in the above sense, but in 1623, its meaning was extended to:-

"having the manners, refinement or polish regarded as characteristic of a town; courteous, at ease in society, blandly polite, suave."

By 1642, the French were using the word urbanize to mean

"to make more refined or polished",

and it must be conceded that this referred to refinement or polish of the inhabitants of a city, or of the townsfolk.

Within the decade, i.e., during the Roundhead Commonwealth of Cromwell, in 1651, a significant change was made to the meaning of the word 'urban', it was then used to mean

"exercising authority, control on or over a town or city";

in this sense, it could infer a higher authority of the land over the town, as well as the local authority.

The meaning remained unchanged until 1837, i.e., until after the first of the local government reform acts in Britain, when it was used to mean

"residing, dwelling or having property in a city or town", i.e., as distinct from those living in a city or town who were not property owners, and presumably paid no rates or taxes towards supporting the needs of the town as a whole.

This leads us on to the connotation of town or city. In the 16th century, the word city meant "a town associated with an episcopal seat, or a royal burgh, or a title conferred upon important boroughs", or "a

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(10) Concise Oxford Dictionary.

town or other inhabited place, with a title ranking above a town", i.e., a place which represented a seat of authority or privilege in the hierarchy of authority over the land.

The American interpretation of city[11] from earliest time, has been "a town or collective body of inhabitants incorporated and governed by a mayor and aldermen"; in this the reference to the influence from a higher national authority exercising control over the town is noticeably absent. This interpretation was presumably derived from the Middle English usage of 'town', designating an "assemblage of buildings, public and private, larger than a village and having more complete and independent local government".

Town, on the other hand, has its derivation from Celtic and Old English, dún and tún, meaning a "fortified place".

During the 16th century, the words civic and civil came into use, and had a relationship with the word city. Civic has its derivation from the latin civicus (f. civis, 1542), and was primarily concerned with citizenship of a town, or the rights or attributes of individuals in towns, rather than the physical structure of a town.

By 1592, civil was used to mean "pertaining to the citizens", i.e., pertaining to those ordinary citizens who had specific rights in a town, as compared with the rights of the military establishment.

In 1601, the word civilize was used in the sense, "to make civil, to bring out of a state of barbarism, to instruct in the arts of life, to enlighten and refine". By 1606, it was used to mean "decently polite, (not rude)"; 1656, "legal as compared with natural behaviour"; by 1684, "humane and gentle"; by 1685, "orderly or well governed"; by 1691, "sober, decent and grave"; by 1716 "educated and refined".

There is a correlation between the words town, city, civil, civilize, citizen, and urban; therefore, we can accept that there is a correlation between these words and the word urbanization. But it is evident that the word urbanization, as Lewis Mumford similarly found with the word city, "has long escaped scholarly scrutiny".[12]

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(11) Webster's Dictionary.

(12) Mumford, Lewis, "The City, forms and functions", International Encyclopaedia for Social Sciences, p.447.

Apart from the several prevailing, yet conflicting, schools of thought on just what constitutes urbanization, or the urbanization process, the United Nations point out that it

(a) is linked to social development[13]

(b) is expected to be a quite specific dynamic action for change, aimed at goals of industrial development[14]

(c) means the steady shift of population from rural to urban areas, and the processes of social and economic change associated with that shift[15]

(d) gives a new importance to human settlements in the process of development, which is transforming the setting of human life on this planet.[16]

None of the above items defines urbanization as an entity in itself, which can be recognized, diagnosed, or quantitatively measured.

The following is an attempt to establish a more clear definition of the word urbanization for the purpose of identifying the context within which the problem can be measured quantitatively.

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(13) U.N., Urbanization, development policies and planning, International Social Development Review, No.1. 1968, p.4.

(14) op. cit., p.5.

(15) U.N., Urbanization in the Second United Nations Development Decade, U.N., DESA, N.Y., 1970, p.1.

(16) World Bank, Urbanization, Sector Working Paper, June 1972, pp.3-8.

3. Urbanization, City and Civilization

It is possible to concede, on the semantic derivation of the words, that there is a correlation between the words urbanization, city, and civilization.

City, we accept as an important town, (or, in America, a town with its own mayor and aldermen), but there is much which is omitted from such a definition, such as the role of the city in societal or national development, its function in the spatial organization of settlement in the nation's economic growth process, or the institutionalized systems by which it operates, etc.; these are only some of the many analytical subjects in which we can study the "city".

Civilization, on the other hand, was introduced into the English language in the 16th century. There is an indication that it was introduced because of a cultural link with the Italian and French society of the day, where the city was viewed as the place in which, and from which, civilization was promoted, i.e., people could be brought out of a state of barbarism, could be instructed in the arts of life, become decently polite, orderly and well-governed, humane and gentle, sober, decent, refined, educated and grave. This definition of the civilization which was to be expected of the cities may have been valid for Italian and French cities in the 16th century, but a reference to the cities of Britain at this time does not support such a doctrine; the towns and cities of Britain at the time were particularly unhygienic places; the effects of the 'enclosures', i.e., ~~the shift of the rural poor~~ forcing some of the rural population to the towns and cities, ~~was~~ were being noticed and felt by the established inhabitants of the towns and cities, and although the guild merchants made what provision they could from their own resources, and although the Poor Laws were introduced to deal with the problem of poverty in the towns, the problem continued to worsen until the 19th century.

Historical records show that during the Tudor period, those who could, left the towns and established themselves in self-supporting landed estates.(17) A high level, (and quality), of life, which could most certainly be defined as equivalent to the civilized way of life expected in some continental cities, was enjoyed by those living in these establishments. It is also conceded that these benefits were enjoyed solely

(17) See Chapter 5, Section 2, of this thesis, p. 150.

by those resident on the estate; there was little of this high quality of life, or civilized way of life, which spread to, or benefited, the numerous poor living in the unhygienic towns and cities at that time.

If we accept the contention that civilization refers to the qualities of behaviour of a society, rather than the properties of behaviour which were expected to be found in the city, then the words city and civilization are not conterminous.

It would appear that there is general agreement as to one meaning of the word city - it is a settlement which has a relatively large, concentrated, and essentially permanent population, wherein decisions are made by the established society of the town for the promotion of the culture of that society over a defined territory.

From pre-Roman times, archaeologists have revealed several cities, which seemingly had high levels of civilization, and which had evolved from, and through, an extensive trading and marketing system, i.e., a heterogenetic function,(18) just as there were those cities which served an orthogenetic function of spreading the culture of the priesthood from a citadel.(19)

The evidence of the 20th century urbanization of Britain(20) suggests that for the successful continuance of the society, towns and cities need to serve both the orthogenetic and heterogenetic functions,(21) the influences varying in relation to each other, but all inter-related with the settlement capability of the land, and the social organization of the various communities, which, together, go to make up the 'cohesive whole' of the society.

It is only over the past few decades that serious attempts have been made to classify the nature, origin, form and function of the city and its historic transformations.

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(18) Such as the Cretan examples of Knossos and Phaestos

(19) Such as those to be found in the 'fertile crescent' from Cairo to Babylon.

(20) See Part II of this thesis, Chapter 7.

(21) In "The Cultural Role of Cities", Economic Development and Cultural Change, Vol.III, No.1, 1954, Robert Redfield and Milton Singer distinguish between the 'orthogenetic' and the 'heterogenetic' function of cities.

It was not until the latter part of the 19th century, with the social horrors of the industrial and factory cities, that analytical publications about towns began to appear; among such studies and scholars were Adna Ferrin Weber,[22] Frederick le Play,[23] and Patrick Geddes;[24] both le Play and Geddes laid the foundation for examining towns and cities in the context of the functioning of human behaviour and society, which Geddes describes as the biological functioning of towns and cities.

Werner Sombart and Max Weber[25] attempted to define a theory of urban growth and development in the late 19th century; Louis Wirth adopted an ecological approach to the city, following on, somewhat, the model first enunciated by Geddes.[26]

Similarly, Lewis Mumford was stimulated by the concepts of Patrick Geddes to study and publish his "Culture of Cities" in 1938, and his "Cities in History" in 1961.

During and after the 1939-45 War, human geographers, such as R. E. Dickenson,[27] began to examine the city as an economic-geographical system, following on the 'central place' theories of Walter Christaller and Augustus Lösch. Since that time, studies on many other aspects of the functioning and working of towns and cities have been initiated and promoted, most noticeably in response to the demand for a more scientific approach to the planning of towns and cities, created by the Town and Country Planning Acts in Britain.

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(22) Weber, Adna F., The Growth of Cities in the 19th Century

(23) Le Play, F.P.G., The Organisation of Labour in Accordance with Custom and Law, Trans. Herbertson.
Le Play, F.P.G., La Constitution essentielle de l'humanite

(24) Geddes, P., Cities in Evolution, Williams and Norgate

(25) Weber, Max, The City, (Trans.) Glencoe, III, 1958.

(26) Wirth, L., Community Life and Social Policy, 1956, and also (Ed.) Urbanism as a way of Life, Cities and Society, Hatt & Reiss, 1959.

(27) Dickenson, R.E., City and Region, a geographical interpretation. (London, 1964, Kegan Paul).

4. The role of the City in the urbanization process

Much of the evidence available to our scholars points to 'cities' (as distinct from towns) having had their origin in institutions derived directly from the citadel, the fortified castle or palace, which was concerned with the defence of the realm, and the system of territorial management, to which only such other components of trade and marketing, organizing of food production, law enforcement, craft and merchant guilds were organized and sponsored as were needed to sustain the supremacy of the city.(28)

In examining the past, present and future direction of the urban growth process of the developing countries, we are concerned with the principle involved in allocating to the city a specific role in the leadership and motivation for the promotion of society in the urbanization process. Many human settlements in the developing countries are still small villages or medium sized towns, rapidly increasing in population but with minimal heterogenetic function, because of poverty. There are already metropolitan areas with a multi-million population in several of the developing countries,but at least a third, and in many cases, more, of this population, are living in sub-human conditions,(29) reflecting somewhat the condition of the 18th and early 19th century cities and towns of Britain and northern Europe.

The question which is being asked now is whether the city, from historical experience, (and regarding it as the significant instrument for spreading the culture of the society, and maintaining the system of law and justice throughout the land), has a vital role to play in the proper urbanization process of the developing countries? Is the equivalent of the citadel, i.e., the epitomization of the culture of their society, the equivalent of the priesthood which provides the leadership of the society, still to be found in the rapidly growing cities of the developing countries?

If the influence of the city (i.e., the orthogenetic influences of a culture which is interdependent with the heterogenetic system of trading and financing) has been responsible for bringing institutional law and order, economic prosperity and social well-being to the people of

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(28) Mumford, L., The City in History - Pelican

(29) See Chapter 2 of Part I of this thesis for the estimates prepared by the World Bank, Urbanization section.

many countries, or in other words, if the creative minority[30] of the authority (or establishment) used cities to bring civilization to an otherwise barbaric people, and that civilization resulted in a noticeable well-being for all the inhabitants of the country, is it not a tenet of the progress of human settlement and society, that the city must retain its place in the spatial organization of the distribution of population of that country; this would apply especially in the process from a state of 'under- or less-development' to a state of equivalent development with contemporary Western society, i.e., the city is needed as the instrument with the organizational capability to spread the culture and strengthen the economy of the country.

In this sense, it is the urbanization process, of which towns and cities are a part, which is used to achieve this end, and an importance is ascribed to the city as the place in which decisions are made for and on behalf of the society, whilst the towns are the centres, or concentrations, of people in which the urban system of the country is used to promote the well-being of the society as a whole. In this context, 'city' is a term not necessarily related to scale or dimension of population numbers; in ancient Greece, 5th century B.C., and in the Middle Ages, 'cities' of 2,000 population were common[31] and those with tens of thousands of population very rare.

One essential study is to identify the role of the city, (in this, the management of human settlements) in the process of national development in the 20th century, and to question whether the use of 'a city' as the instrument for spreading the cultural levels, the social cohesion and the economic growth process for the nation, is still necessary; can the city be superseded by a new urban spatial form and structure throughout the country, which does not need central societal focal points, but which functions through a communication system and a democratically decentralized decision-making process; if so, under what circumstances is this valid?

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(30) A principal thesis of Arnold Toynbee, in his 'Study of History' (abridged version by D.C.Summervill, O.U.P. 1963) is that societies or civilizations (not nations or periods) are the significant units of historical studies. Civilizations, 26 of which were distinguished, including arrested societies, grow up by responding successfully to challenge under the leadership of creative minorities; they decline when the leaders fail to respond creatively.

(31) This does not necessarily take into account the slave population of the city, which could have been several times this population; the word population here would refer only to the 'citizens'.

Three quite different schools of thought on the concept of urban growth for our modern world are now influencing the spatial organization of the settlements in the urbanization process in developing countries. Each, for its own reasons, believes that, for the human settlements of the late 20th century, it is the valid policy which should be followed by the government planners of developing countries.

The three schools can be defined as follows:-

1. The dispersionist school which holds that the focal, "synergizing"(32) functions of a city are now unnecessary because modern society is no longer tied to the city; the significant factor for growth and development in this age is the national culture and contemporary knowledge, which includes knowledge and skills pertaining to advanced technological systems, use of electronic systems for storing, and processing information for accurate and quick decision-making, rapid transport systems, instantaneous visual telecommunication, etc. The city, as a unifying cultural centre for decision-making, on this reasoning, has lost its reason for existence.

2. The concentrationist school which believes that the concentration of the population into the existing cities is the most satisfactory urbanization process for national development, because it is only in the city that the organizational management and institutional systems and resources exist which could have the capacity to accelerate the urbanization process.

This is supported, to a certain degree by the findings of Patrick Geddes and Lewis Mumford, in that there is one function which the city alone can perform, namely the synthesis of energy, or 'synergy'. It provides the means by which the many separate parts of the societal activities are continually being brought together in a common meeting place, where direct face-to-face intercourse is possible, and where new

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(32) "Synergy" is a term adopted by Patrick Geddes, in "Cities in Evolution", (p.198) in which it is meant to mean synthesis of energy, which was to be taken with achievement and policy as the active side of the equation of the formulae "Environment, Function and Organization", with place, folk, work (from Le Play) as the passive side.

The Oxford Dictionary gives synergy to mean 'combined or correlated action of a group of bodily organs (e.g. such as nerve centres, muscles, etc.)'.

stimulus for continued action is created. This school propounds that the unique office of the city is to increase the variety, the velocity, the extent and the continuity of human intercourse. Whether there is a limit, or a threshold, beyond which this becomes self-defeating, or degenerative, needs to be examined, because there is evidence enough today to suggest that there are conditions of concentration in the growth process of cities which inhibit, and frustrate further growth; as an example, one can quote the problems of industry and its location in London before the 1939-45 War, which caused the Government to create a Royal Commission under Mr. Justice Barlow, to report on the problem, but there are many other contemporary examples.

3. The regional-urban integration school, or those who believe in the city-region concept, which contends that historical examples show that there is usually an inter-connected hierarchical urban order descending from the primate city in any one culturally cohesive regional system, in order of size, and composed basically of interacting cellular units or towns, which are diminishing in size, and order, of function, which serves the regional settlement system.(33) This infers the culturally recognized institutional authority of the city to organize the continued human colonization of a region within a scientifically determined urban-rural interdependent settlement network, in contrast to the dispersionist or concentrationist concept.

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(33) In many respects, this school is following the theories and principles propounded by Walter Christaller on his theory of location, which were taken a lot further by Augustus Lösch in 1940, especially in relation to the hierarchy and levels of urban services; this has been extended by Herbert Simon, "The Architecture of Complexity", American Philosophical Society, Proceedings 106, pp.467-482.

5. Urbanization as a function of Social Development

In the past, strong societies or civilizations, such as the Romans, shaped their towns and cities in a standard plan and design to serve the disciplined organized way of life of that society, and as a result, societal behaviour became regulated by the built form of their cities.

Today, millions of human beings are crowding into the existing urban structures, which, for the most part, were built in former colonial administration days, and are apparently not suited to meet the contemporary needs of all the people. No provision had been made (or considered) for the change which is now taking place in those towns and cities today, through the rapid uncontrolled spread of settlement in these urban areas.

The United Nations point out that the deteriorating urban living conditions in developing countries is as much a problem of social development, as it is a problem of spatial and administrative organization of settlement; each, in fact, is a function of the other, in the same way as the orthogenetic and heterogenetic functions of towns and cities are functions of each other.

Our attention has been caught by the 'effects' of the millions of poor rural families shifting their poverty to the urban centres, and yet it is a process which has been going on since recorded history. It is a process which epitomizes human behaviour, and in any attempt to diagnoze the urbanization process for what it is, using the scientific method, we need to examine more closely the way in which the human body and human activity function, and identify the elements and components by which both interact and operate to make up a socially cohesive civilized society; the built urban form is created by the society to serve its own needs.

The urbanization process is a process of societal behaviour, and, as such, is a product of human society, and its social organization.

In the latter part of the 20th century, the very membership of the developing countries in the international organization precipitated the representatives of each country to assess the level of living, the level of advancement of their own country with that of their fellow members in the U.N. organization. There is the inevitable question as to 'how equal'

are all members of the organization, and whether its aim is to assist in reducing imbalances which exist in the form of extremes of wealth, scientific knowledge, technology, etc., or whether its aim is to provide the means to raise the level of living for the population in all member countries to a level above a universally agreed minimum level of living, one becoming of the dignity of mankind. There is every indication that the U.N. is working towards both.

Member countries of U.N. are in varying states of economic advancement, some in the most primitive rural economy, and others are in the process of accelerating their rate of advancement in literacy, skills, industry, and economic growth. All have recognized that the advancement of their individual society is dependent upon various administrative systems having been properly institutionalized.

The institutions are a human function of the society, but must be housed adequately to perform their respective function. The question has already arisen as to where such institutions should be physically situated; in a central place, a place of meaning and significance for the society as a whole, or dispersed? Functionally, and traditionally, such institutions have been situated in a central place; their location in a town or city reflects the significance and dominant position the institution holds in that society, both in that place and throughout the land influenced by that society.

Historically, the establishment of these institutions in central places has contributed to the formative process of the society, which, in turn, has contributed to the organic growth process of the town or city. The societal development of Britain has been influenced very much by town development, in the same way as it has been influenced by institutional development, which has provided the system for organizing its own defence and advancement.

On the premise that the urbanization process is one of the products of human society, then one of its principal components must be the built urban form and environment, with which society promotes the concepts of its own civilization, i.e., "to bring mankind out of a state of barbarism", though it must be conceded that rarely is the word "civilize" or "urbanize" used to mean "to bring out of a state of poverty", but this surely must be inferred. The case studies of the urbanization problem of the

developing countries indicate that poverty is the significant nature of the problem, not "barbarism".

If we accept that the orderly construction of a built urban environment is synonymous with the level of civilization of the inhabitants of the built-up urban areas, then the question is raised as to whether all those living in the defined urban area are all participating members of, and contributing to, the improvement of society. Historical examples of the urban growth process in Britain, and present-day studies of examples in developing countries, indicates that there is a large proportion of the urban population (at present some 40% of total, and increasing annually), who are not established citizens, nor are they accepted by the established citizens as belonging to the local urban society.

The continuous movement of the population from poor rural areas to join the urbanization process suggests that there is an aspiration for perpetual improvement of, and by, the population of all countries. The concept, or aspiration, for improvement is conditioned by the state of the prevailing quality of life, and/or the level of satisfaction at any one time. This is conditioned by the aspiration for 'improvement', which the society wants to attain, either because, collectively, it feels deprived, or, because it has a potential for attaining 'improvement' through the use of its existing resources, which could be human resources, physical or environmental resources.

During the latter part of the eighteenth century, there was much speculation on the "future improvement of society". The Reverend Thomas Malthus (a professor of political economy at the East India College) elucidated his thoughts on the matter in 1798, and published his Essay on the Principle of Population, as it Affects the Future Improvement of Society.(34) His paper then was not based on quantitative evidence, (statistical collation of data was only then being commenced), and caused much controversy at the time, and since. His basic thesis, however, has been vindicated, a century and a half later, in the social philosophical problem of the developing world.

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(34) For further discussion on this point, see Juppenlatz, M., Cities in Transformation, U. of Q. Press, p.178.

Malthus conceded that there were those who propounded that the best argument in support of the ultimate perfectibility of man and society could be drawn from a contemplation of the great progress that had already been attained for the citizens at that time, known as the "Age of Elegance"; society having originated from the savage state, it was difficult to say where the progress would stop. He argued that the power of population increase was infinitely greater than the power of the earth to produce subsistence for man.

The world of the twentieth century has reached a most remarkable level of scientific achievement; scientists and technologists indicate that, theoretically, they can extract optimum subsistence from the soil and the sea and provide adequate subsistence for all, yet, in the latter part of the twentieth century, i.e., in the age of advanced technology, the World Food and Agricultural Organization reveals that half the world is suffering from malnutrition, and hundreds of thousands of children die annually from starvation.(35)

As the nations of Europe evaluated the progress of their own societies in the late eighteenth century, there seemed little reason to doubt that the citizenry would henceforth continue with accelerated velocity towards illimitable, and hitherto unconceived improvement. Malthus, perhaps from his experience with the East India Company, or his consciousness of the urban poor at the time, argued that society would be condemned to perpetual oscillation between happiness and misery, and after every effort remain still at an immeasurable distance from the wished-for goal.

Just as there existed much speculation on the possible improvement of society in the eighteenth century, so there is today. Malthus also saw the fallacy of the 'inquiry of Dr. Adam Smith' into the nature and causes of the wealth of nations, in that the economic philosophy of Dr. Smith made no acknowledgement of the needs of the poor of the country, nor did it provide any basis on which they could be supported, except, perhaps, from charity.

By 1961, because of the complexity and nature of the problem, and in response to government requests, the U.N. had prepared a programme of research in the field of urbanization, based on an analysis of the major

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(35) F.A.O. Annual Reports.

problems associated with rapid urban growth. The Research Institute for Social Development (UNRISD) was established in Geneva, and commissioned to carry out some studies related to the programme, as it affected urbanization and development.

A team under Professor J. Drewnowski and Wolf Scott examined the problem firstly from the point of view of identifying the factors by which levels of living for any place, district or country, could be measured on a comparable basis throughout the world.(36) This was intended to provide the quantitative assessment. A selection of 24 economic and social indicators, as shown in Table 1, p. 23 , was made as the basis on which each country could be assessed on a comparable basis for its current development level, and from which an assessment could be made of deficiencies in the levels of living for the country as a whole, and the conditions of urbanization which prevailed in that country.

Information which was available for the period 1920-60, although not complete for all items, was used to analyse trends for the countries selected, and to provide some indicators of trends on a comparative basis. Many dissimilarities were found in the "pace of urbanization" between those countries which had 75% or more of their population in towns and cities with more than 20,000, and those which did not, i.e., those countries which were predominantly urban in character and those which were still agrarian in character and whose economy was still dependent on subsistence agriculture. From the information available, an attempt was made to ascertain from the indicators whether certain levels, trends and patterns of urbanization were associated with particular levels, trends and patterns of economic and social development; it was too complex to explain as a rational process, but the trends of certain indicators were

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(36) UNRISD Report No.3, Social and Economic Factors in Development, Geneva, 1966; see also UNRISD Report No.4, The Level of Living Index, Geneva, 1966; and Drewnowski, J., Studies in the measurement of levels of living and welfare, Report No.7003, 1970, UNRISD, Geneva.

TABLE 1 - UNRISD - Economic and Social Indicators

1. Expectation of life at birth
2. Crude birth rate*
3. Population in localities of 20,000 and over as % of total population
4. Proportional mortality ratio*
5. Consumption of animal protein, per capita, per day
6. Consumption of calories derived from cereals and starchy roots as % of total calorie consumption*
7. Combined primary and secondary school enrolment as % of age-group 5-19
8. Vocational enrolment as % of age-group 15-19
9. Average number of persons per room
10. Dwellings with electricity as % of all dwellings*
11. Newspaper ('daily general interest') circulation per 1,000 population
12. Telephones per 100,000 population
13. Radio receivers per 1,000 population
14. % of economically active population employed in electricity, gas, water, sanitary services, transport, storage and communications
15. Agricultural production per male agricultural worker, in 1960 U.S. $
16. Adult male labour in agriculture as % of total male labour
17. Electricity consumption, kwh per capita
18. Steel consumption, kg per capita
19. Energy consumption, kg of coal equivalent per capita
20. GDP derived from manufacturing as % of total GDP
21. Foreign trade (sum of imports and exports) per capita, in 1960 U.S. $
22. Salary and wage earners as % of total economically active population
23. Total structural differential in production**
24. Expenditure on food as % of total private consumption expenditure*

* The variables marked with an asterisk were omitted from the Development Index.

** This index is the aim of the values - irrespective of sign - of the differences between the percentage distribution of GNP in each of the three sectors (agriculture, industry and 'others') and the percentage distribution of the economically active population in the same sectors.

Gross Domestic Product (GDP) is GNP less net income paid abroad.

of value in arriving at some comparison. Data of reasonable comparability from some 54 countries,(37) 48 in the developing category and 6 in the developed category, was examined, and data for 6 developed and 30 developing countries was correlated, as shown in Table 2; the definition of each of the indicators used is shown in Table 3, p. 25.

Table 2. — Unweighted average level of indicators according to stage of urbanization

Indicators	*Mean*	*Group I*	*Group II*	*Group III*	*Group IV*					
					Total		*A*		*B*	
Per cent urban	$\bar{X}$	(6) 52	(3) 56	(16) 32	(29)	11	(15)	17	(14)	5
Rate of urbanization	$\bar{X}$	(6) 0.4	(3) 0.7	(16) 0.8	(25)	0.3	(14)	0.4	(11)	0.2
Infant mortality	X_g	(6) 20.1	(3) 71.1	(9) 61.9	(17)	102.8	(9)	76.1	(8)	144.2
Expectation of life	$\bar{X}$	(6) 70.7	(3) 63.7	(15) 57.8	(20)	44.9	(12)	48.0	(8)	40.3
Dependency ratio	X_g	(6) 66	(3) 80	(14) 99	(16)	93	(12)	90	(4)	102
Literacy	$\bar{X}$	(6) 98.2	(3) 88.4	(17) 53.1	(17)	26.0	(12)	31.5	(5)	12.8
School enrolment ratio	$\bar{X}$	(6) 89	(3) 72	(15) 58	(29)	35	(15)	42	(14)	28
Mail circulation	X_g	(6) 176	(3) 30	(10) 22	(13)	9	(10)	11	(3)	5
Daily newspaper circulation	X_g	(6) 369	(3) 162	(15) 68	(25)	11	(15)	22	(10)	4
Cinema attendance	X_g	(6) 8.2	(3) 6.9	(14) 5	(22)	0.9	(13)	1.6	(9)	0.4
Inhabitant/physician ratio	X_g	(6) 990	(3) 977	(15) 2,492	(27)	12,395	(14)	8,337	(13)	18,978
Calorie consumption	X_g	(6) 3,123	(3) 2,726	(9) 2,353	(4)	2,256	(4)	2,256		...
Protein intake	X_g	(6) 89	(3) 90	(9) 61	(4)	56	(4)	56		...
Persons per room	X_g	(6) 1.1	(2) 1.8	(9) 1.8	(10)	2.4	(10)	2.4		...
Energy consumption	X_g	(6) 3,687	(3) 919	(16) 423	(23)	116	(13)	153	(10)	80
Income *per capita*	X_g	(6) 1,066	(3) 320	(14) 292	(10)	137	(10)	137		...
Percentage of gross domestic product derived from non-agricultural activities	$\bar{X}$	(6) 90	(2) 88	(12) 80	(16)	59	(11)	60	(5)	58
Percentage of active males in non-agricultural activities	$\bar{X}$	(6) 83.9	(3) 70.6	(14) 51.0	(14)	29.8	(11)	32.7	(3)	19.4
Rural density	X_g	(6) 102	(2) 67	(16) 288	(23)	140	(13)	135	(10)	145

Notes: numbers in parentheses represent number of countries observed.

X_g: geometric mean.

$\bar{X}$: arithmetic mean.

Group I: developed countries.

Group II: developing countries with 25 or more per cent urban in 1920.

Group III: developing countries that reached 25 per cent urban between 1920 and 1960.

Group IV: developing countries that had not reached 25 per cent urban in 1960:

A. Countries with 10 to 25 per cent urban.

B. Countries with less than 10 per cent urban.

(37) The countries selected for study by the U.N. were as follows:
Group I. Developed countries: England and Wales, Australia, the Netherlands, United States of America, Sweden, Finland.
Group II. Developing countries with 25 or more per cent urban in 1920 Uruguay, Argentina, Chile.
Group III. Developing countries and territories that reached 25 per cent urban between 1920 and 1960: Venezuela, Japan*, Ryukyu Islands, United Arab Republic, Jordan, Mauritius, Panama, Mexico, Brazil, Peru, Puerto Rico, Iran, Ecuador, Jamaica, Malaya (Federation of), Algeria.
Group IV-A. Developing countries and territories with 10 to 25 per cent urban in 1960: Iraq, Morocco, Turkey, Cyprus, Senega, Tunisia, Nicaragua, El Salvador, India, North Borneo, Ghana, Ceylon Honduras, Nigeria, Pakistan.
Group IV-B. Developing countries and territories with less than 10 per cent urban in 1960: Thailand, Congo (Democratic Republic of), Madagascar, Ivory Coast, Liberia, Gabon, Kenya, Sudan, Guinea, Ethiopia, Chad, Tanganyka, Uganda, Swaziland.

*Japan, although a developed country by 1960, has been included here because it was in a transitional stage during a large part of the period under consideration.

TABLE 3 - DEFINITION OF THE SOCIAL AND ECONOMIC INDICATORS

Urban population: the population living in localities of 20,000 and more inhabitants. Level of urbanization therefore refers to the percentage of the population living in localities of this size. According to this definition, the rural population is that living in localities of less than 20,000 inhabitants.

Rate of urbanization: average annual amount of increase in the percentage of population in localities of 20,000 and more inhabitants.

Infant mortality: deaths of children under one year of age per 1,000 live births.

Life expectancy: expectation of life at birth for both sexes combined, in years, according to available statistics of satisfactory quality around the date indicated.

Literacy rate: percentage of males and females aged 15 years and over able to read and write.

School enrolment ratio: enrolment in primary and secondary schools (related to an adjusted population base, i.e. enrolment is related to a population more nearly corresponding to actual duration of schooling in each country, rather than to mid-year population in the specified age groups).

Letter mail circulation: total number of pieces of mail sent and received, foreign and domestic, per inhabitant.

Daily newspaper circulation: number of copies of newspapers issued at least four times weekly per 1,000 inhabitants.

Cinema attendance: average attendance at cinema per inhabitant per year.

Inhabitants per physician: number of inhabitants per registered physician. (This ratio is not related to visits to physicians.)

Calorie intake: average number of calories consumed per person per day during the year specified.

Protein intake: average number of grammes of protein consumed per person per day.

Housing density: average number of persons per room.

Energy consumption: per capita consumption of kilogramme of coal equivalent.

Income per capita: U.S. dollar equivalent of annual income per capita.

Gross domestic product (from non-agricultural, or from agricultural activities): value (in "current" prices) at factor cost of the domestic product, before deduction of provisions for the consumption of fixed capital, attributable to factor services rendered to resident producers of the given country.

Males in non-agricultural activities: percentage of economically active males engaged in tertiary and secondary activities. Where the reverse of the term is used, reference is made to the percentage of economically active males engaged in agriculture.

Rural density: rural population per 100 hectares of arable land.

Dependency ratio: number of economically inactive males per 100 active males.

Analysing the figures contained in Table 2 is not particularly pertinent to this thesis; the vast differences in both economic and social levels, in consumption of energy, in health, literacy, nutritional intake, mortality rates, which are revealed by the figures in the Table highlights the extent to which the levels of living in the 'developing' countries are far below those prevailing in the 'developed' countries. Although the figures give a static portrayal of the comparative differences, the situation is not static, but very dynamic in its change.

The efforts by the U.N. have at least provided a quantitative indication of the backlog of human need, and the imbalances in the levels of living, which prevail throughout the different countries of the world. On the premise that all families throughout the world seek to improve their own level of living to one in which they can live with a sense of dignity and purpose, and that this can be attained more easily through the urbanization process, then one needs to consider the mechanics and working of such a process. An overview of the problem, in quantitative terms, at the international level, helps to put the problem of each country into a better perspective, from which national authorities and instrumentalities, both private and government, and local authorities, can formulate policies to accelerate the systems by which the urbanization process can be achieved effectively.

6. Rationalizing a definition for urbanization

There have been many attempts at rationalizing both a theory on, and a definition for, urbanization. There is validity in most of the theories, which tends to suggest that urbanization, if it can contain several different theories, each of which is valid within certain circumstances, is of much greater importance, and is of much greater dimension, in the total process of societal development, than each individual theory, and goes far beyond the definition which regards it only as an increase of population in towns and cities.

It is, without doubt, an inevitable process of social change on a vast scale in the latter part of the 20th century; it is seemingly a universal trend throughout the world, a world which now has an efficient global communication system.

It is only too apparent that an agrarian based economy can rarely, in itself, support a large urban population, nor can it provide the dynamic process of growth necessary to sustain the increasing urban population at urban values. This does not prohibit those living in the rural areas from having levels of living equal to those found in urban centres, but in the developing countries, this is rarely the case.

Urbanization, without a measure of control and guidance from society itself, (as is happening in many of the developing countries today), can be the cause of a degenerative process of the society. This infers that urbanization is a positive entity in itself, closely associated with civilization, in which there are standards of living to be attained, organization, and a hierarchy of discipline, with law and order, by which it is attained. Eric Lampard defines urbanization[38] 'as a way of ordering a population to attain a certain level of subsistence and security in a given environment'. But again we raise the question as to who does the ordering, and how much ordering of the society is required to attain the certain levels of subsistence; who establishes the levels? Formerly, this was the role of the citadel, but this no longer prevails. What, then, is taking its place? Is the ordering from national government level or local government level? Is the national authority bestowed

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(38) Lampard, Eric E., with Hauzer, P. and Schnore, L.F., "Historical Aspects of Urbanization", Study of Urbanization, New York, 1965.

with an ethical and moral conscience for the society as a whole? Historical example has not borne this out as necessarily being the case.

The question can be asked whether there is only one 'urbanization' process which all human societies will follow, in a historical evolutionary process. It seems that there is only one urbanization process for mankind; it does not have to be a predominantly urban industrial society, as Leonard Reissman postulated, i.e., "that the industrial urban development in the west, and that in the underdeveloped countries today, is the same process, although greatly separated in time and place". Manufacturing processes, certainly, will be needed as the basis of the urban economy, but what is invoked is the need to relate both the rural and the urban people in an integrated rural-urban interdependent society, so as to reduce the present imbalances.

It can be asserted that in this enlightened scientific and technological age, the important issue is to arrive at a balance of occupational activities for the employable population throughout a pattern of human settlements, which can be supported by the settlement capability of the land, and the total resources available to the country.

In its totality, urbanization is a behavioural characteristic of 20th century society throughout the world. As Dr. McGee writes,(39) "there is no area of human existence which is not influenced by the urbanization process". The level of urbanization, and the fluctuations and changes, are reflected in the condition, character and structure of the built urban form of the human settlements of any particular local society.

We can conclude that the urbanization process is the most significant system in the 20th century, for the advancement of civilization. In its turn, it operates by, or functions, through several systems operating at the societal and administrative level of a community, from local level to international level. Each system interacts with, and is interdependent with another, in a perpetual state of dynamic change. In an endeavour to identify the individual systems which go to make up a successful contemporary urbanization process, the systems which have evolved over the past 1000 years in Britain have been analysed.(40)

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(39) McGee, T.G., The Urbanization Process in the Third World;Explorations in Search of a Theory, Bell and Sons, 1971, p.10.

(40) See Part II of this thesis.

Rationalizing 'urbanization' by a 'systems approach',(in which it is regarded as an 'urban system of systems',)permits a quantitative measurement of the forces, or energy, which flows through each of the systems, and by which each interacts with the other. From this, it is more realistic to attempt to formulate strategies, policies and action programmes through, firstly, quantitative simulation exercises to obtain some indication of the consequences of the decisions for action which are being proposed.

In the highly evolved urbanization process in Britain, one can identify at least ten such systems operating at the urban societal level, and the national administrative level, as follows:-(41)

1. the system of productivity (occupational sectors and the value of product)
2. the system of planning and control of land use
3. the system for the control and construction of the built urban environment
4. the system of marketing and trading
5. the system of transport and communication
6. the system of finance, capital accumulation and savings
7. the system of local government and administration
8. the system of central government and administration
9. the system of labour, incomes and spending
10. the system of providing for levels of living and welfare.

Such an approach to rationalizing the urbanization process is not at variance with other theories, but rather provides the mechanism for quantitatively proving when, and under which particular circumstances, ideological, economic, sociological, or spatial, theories are valid. For instance, the theories of Frank, Fanon, Lin Piao(42) have ideological overtones; their basic theory is that the cities of the Third World are former capitalist structures, which are decaying because of the decay of capitalism itself. This is not to say that it is interpreted as a form of entropy at work, but rather that all cities go through the evolutionary process propounded by Karl Marx, (i) the slave-owning city, (ii) the feudal city, (iii) the capitalist city, and (iv) the socialist city.

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(41) See Chapter 9, Section 2, of an elaboration of the concept of this model, and Annex I, p. 410.

(42) See Frantz Fanon, The Damned (trs.) Constance Farington, Paris 1963; Andre Gundar Frank, Capitalism and Underdevelopment in Latin America, N.Y. 1967. Lin Piao, Peking Review, Sept. 3, 1965.

In direct contradiction to this view is that propounded by Hirschman and Friedmann[43] which sees the future strength of developing countries lying primarily in their cities, because, as capitalist structures, they are the only instruments which have the capacity for economic growth, especially that which characterizes the economic strength of developed capitalist nations.

There is the third concept of 'urbanization' in developing countries by Dr. McGee, which concludes that "the city must be seen as a symptom of process operating at the societal level. In order to diagnose accurately the characteristics of a city of the underdeveloped world, we must investigate the condition of underdevelopment which characterises the countries of which the city is a part".[44]

In defining urbanization, this study draws the conclusion that:-

(i) theoretically, urbanization is the consequence of / an aspiration of human society for a perpetual improvement in its personal and collective environmental comfort to attain higher levels of civilization, which, in our world of the present, can be achieved best by its own collective effort by the use of the urban system, i.e. in urban centres through urban institutions;

(ii) academically, it is the most significant component in societal development in our present world, and as such, can be identified, diagnosed, analysed and studied as the interaction and interdependence of an 'urban system of systems', all of which, interacting on each other in a quantitative way, go to make up a total urban system. It is part of the syndrome of society, city, and civilization. (Technically, it should be possible to construct a simulation model of the urbanization process, firstly in static form at local level, and then in dynamic form; this can be extended to the construction of a model of the urban system at national level.)

(iii) semantically, its meaning is very much the same today as when the word 'urban' was introduced into the English language, and accepted in 1619 to mean, 'pertaining to, or characteristic of,

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(43) Hirschman, A.O., The Strategy of Economic Development, New Haven, Conn. 1958; John Freidmann, 'The Strategy of Deliberate Urbanization' I.A.P. Journal, XXIV, 6, Nov. 1968.

(44) op. cit. McGee, p.31.

situated or occuring in, a city or town', along with its derivative, "urbane", 1623, 'having the polish or refinement regarded as characteristic of a town or city, courteous and at ease in society'.

CHAPTER 2. THE URBANIZATION PROBLEM OF DEVELOPING COUNTRIES

1. Global trends of Population Increase

In 1960, the total urban population of the world was estimated at being approximately 924 million, and the urban population of the less developed regions was estimated at approximately 402 million (see Table 4, p.33). The estimate of urban population for 1980 in developing countries, produced by the International Population Urban Research Unit, Berkeley, was 1303 million, whilst the estimate produced by the U.N. demographers was some 737 million, as shown on Diagram 1, p.34.

The estimates available, i.e., the estimates prepared by the International Population and Urban Research Centre, Berkeley, California, by Kingsley-Davis (and these correlate with the figures produced by Homer Hoyt, in his evidence, Study of International Housing, given to the U.S. Senate Committee on Banking, in 1963), and the estimates prepared by the U.N. Demographers have been plotted in graph form in Diagram 1, p.34.

Clearly, with estimates differing so much between internationally respected demographic research institutions, it is all the more vital to define quite accurately what is meant by urbanization trend, and for some agreement to be reached internationally on what should be included in the measurement of that trend.

The significance of the changes in these figures are both qualitative and quantitative; qualitative in terms of the changes expected in the levels of living by so many more million people in one generation, and quantitative in terms of supply and demand, services to be provided, construction to be undertaken, etc. over the same period.

As yet, there is no universally accepted system for defining and/or measuring urban population in relation to rural population. The census returns for some countries quote the population within the jurisdictional boundary of the local authority of the town, which, in some cases is so excessively large in area that much of the population is really rural in nature, character, and habit. Other census returns have endeavoured to define an urban area by density of population per hectare, thereby excluding from the urban population some of the higher-income, lower-density housing which is removed from the built-up centre of the town.

There are very few census returns in the world in which the number of urban squatters has been enumerated; usually, only dilapidated or sub-standard housing is recorded.

TABLE 4

Urbanisation trend of less developed regions[45]
1920-1980

	Population in millions (circa)				
	1920	%	1960	%	1980
Total population of more developed regions*	672		928		1,129
Total population of less developed regions+	1,187		2,001		3,405
TOTAL WORLD POPULATION	1,859		2,929°		4,534
TOTAL URBAN POPULATION	350		924		1,972
Percentage of urban population to world population		13.5		31.5	43
URBAN POPULATION OF LESS DEVELOPED REGIONS	67.5		402 (1950-500+) (Prof.Thijsse)		737 - U.N. 1,303 - Berkeley
Percentage of urban population of less developed regions to total urban population		27		43.5	% 38 - U.N. 66 - Berkeley

* More developed regions taken to include: Europe, North America, U.S.S.R. Oceania

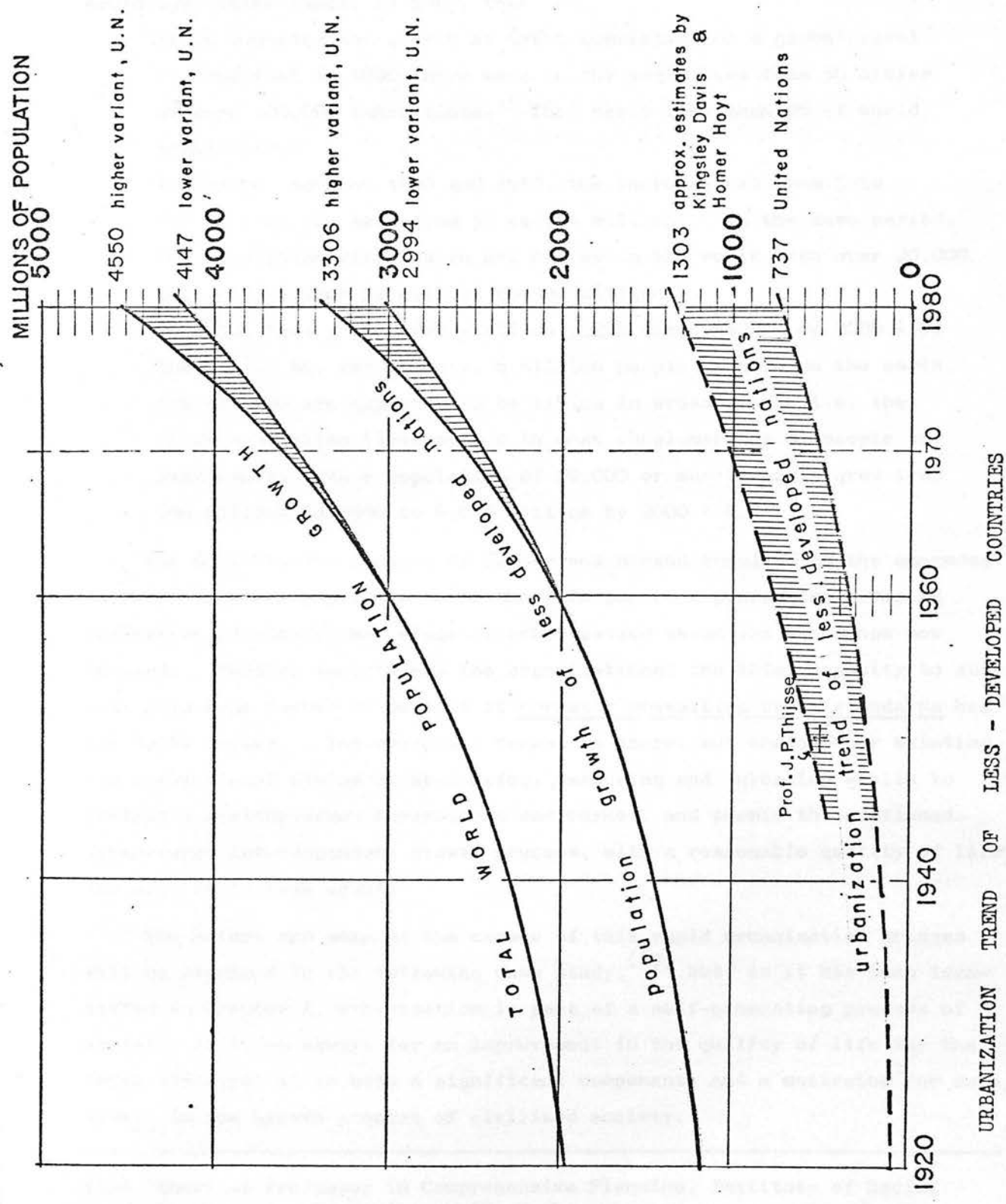
\+ Less developed regions taken to include: Asia, Africa, and South America

o Including 600 million in China.

For a summary of the population projections relevant to urban settlements, see Juppenlatz M., "Cities in Transformation", U. of Q. Press, pp.14-20.

(45) Statistical sources of reference: U.N. Document "World Population Prospects, as Assessed in 1963" (United Nations, Department of Economic and Social Affairs, Population Studies, No. 41 (New York: United Nations, 1966), p.135 and "Urbanization: Development Policies and Planning", (United Nations, Department of Economic and Social Affairs, International Social Development Review, No. 1 (New York: United Nations, 1968), pp. 9-19, and "the International Population and Urban Research Centre, Berkeley, using another index of urbanization (i.e. the proportion of the world's population living in urban places of all sizes).

DIAGRAM No. 1



For U.N. estimates, see WORLD POPULATION PROSPECTS, as assessed in 1963, table A 3.3/5, page 135, United Nations, 1966.

For Kingsley Davis estimates, see "The Urbanization of the Human Population", SCIENTIFIC AMERICAN, September 1965, page 45.

For Professor J.P.Thijsse, see Symposium on Urbanization in Developing Countries, Noordvijk, 1967, p.67.

2. Increase in the number of towns and cities

Professor Thijsse[46] pointed out during the International Union of Local Authorities symposium on Urbanization in Developing Countries, in Noordvijk, Netherlands, in 1967, that

> "if we consider the growth of urban population on a global level we find that in 1800 there were in the world less than 50 cities of over 100,000 inhabitants. That meant less than 2% of world population."
>
> "In Europe, between 1800 and 1950, the increase was from 5 to 118 million, in Asia from 10 to 106 million. In the same period, the population residing in all cities in the world with over 20,000 people rose from 22 million to 500 million.
>
> "In 1950, this planet was still only 20% urbanized. By 2000 A.D. there will be, very likely, 6 billion people or more on the earth, 66% of whom are expected to be living in urban areas, i.e. the urban population (interpreted to mean conglomerates of people in settlements with a population of 20,000 or more), could grow from 500 million in 1950 to 4,000 million by 2000 A.D."

The quantitative aspects of supply and demand involved in the enormous increase in urban population over the lifespan of a generation gives an indication of the dynamic stage of urbanization which the world has now entered. Whether society has the organizational and total capacity to sustain this huge number of persons at normally prevailing urban standards has yet to be tested. The potential market is there, but whether our existing and conventional system of accounting, measuring and investing wealth to sustain a healthy urban environment and market, and permit the continued urban-rural interdependent growth process, with a reasonable quality of life for all, is in some doubt.

The nature and some of the causes of this rapid urbanization process will be examined in the following case study,[47] but, as it has been identified in Chapter I, urbanization is part of a self-generating process of society, striving always for an improvement in the quality of life for the local society; it is both a significant component, and a motivator for survival, in the growth process of civilized society.

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(46) Emeritus Professor in Comprehensive Planning, Institute of Social Studies, The Hague (see p.67 of the proceedings, op. cit..)

(47) See Chapter 3 of this thesis.

For member countries of the World Bank, in 1960,[48] the average annual rate of total population growth was 1.8%, as illustrated in Table 5, p. 37 , and the average rate of annual increase of urban population was 4.2%. By 1980, these rates of change are estimated to be more like 2.5% increase of total population, and 4.0% per annum for the increase of urban population, though this is in the context of a total population which is growing at one and a half times its earlier rate of growth, i.e. the 1960 rate. These are bold global averages only for settlements with population in excess of 20,000.

Table 2 of Annex I, p.75 of the same report, indicates that the tendency has been for the rate of population increase of settlements with population in excess of 100,000 to change from 5.5% per annum, as it was in 1940, to 7.3% per annum, in 1960.

Annual growth rates for the principal cities of the member countries vary considerably, ranging from 1.2% in Lisbon, to 11% in Abidjan; on average, the annual rate of increase for 62 principal cities listed, over the period 1960-70, was 4.9% per annum. The principal cities in each of the countries listed vary as to their share of urban population of the whole country, varying between 6%, as in Lagos, 5% in Calcutta, to 80% in the case of Katmandu, Nepal. Over the period 1960-70 the principal city population of World Bank member countries constituted some 39%, on average, of total urban population (except in Singapore, which is 100%).[49]

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(48) World Bank, Urbanization, Sector Working Paper, 1972. See Figures in Annex I Table 1, p.74.

Note: The growth of total urban and principal city population over the period 1960-70, for the 92 member countries of the World Bank, are illustrated in Table 3 of the Annex of the World Bank paper (p.76) and in all cases (except Mauritania, Niger, Papua and New Guinea and Singapore, the latter being 100% urban settlement already) the percentage of population living in urban areas as compared with total population has increased.

(49) op.cit., Table 3, Annex I, pp.76-79.

TABLE 5

Past and Projected Total and Urban
Population of the Developing Nations of the World Bank
1920-2000

(1) Total regional population of Bank's developing nations (millions)*
(2) Total urban (20,000 and over) population (millions)*
(3) Annual rate of total population growth (%) for 20 years preceding
(4) Annual rate of urban population growth (%) for 20 years preceding.

		1920	1940	1960	1980	2000 a.d.
East Asia and Pacific (1)	(1)	131.5	182.8	268.7	450.3	730.6
	(2)	5.7	15.3	41.3	104.6	232.7
	(3)	-	1.6	1.9	2.6	2.4
	(4)	-	5.1	5.1	4.8	4.1
South Asia (1)	(1)	333.1	422.2	579.9	941.7	1,381.2
	(2)	18.2	34.6	76.6	168.9	343.9
	(3)	-	1.2	1.6	2.5	1.9
	(4)	-	3.3	4.0	4.0	3.6
Southern Europe and the Middle East (2)	(1)	111.5	140.0	176.6	234.8	314.0
	(2)	24.5	36.2	59.4	91.1	141.1
	(3)	-	1.1	1.1	1.4	1.5
	(4)	-	2.0	2.5	2.2	2.2
Africa (3)	(1)	135.1	179.8	255.4	419.3	716.9
	(2)	5.7	11.2	30.8	76.7	189.5
	(3)	-	1.2	1.4	2.5	2.7
	(4)	-	3.4	5.2	4.7	4.6
Latin America	(1)	89.5	129.9	212.4	378.4	638.1
	(2)	12.9	25.5	69.7	163.4	342.0
	(3)	-	1.9	2.5	2.9	2.6
	(4)	-	3.5	5.2	4.4	3.8
Totals for all countries above	(1)	800.7	1,054.7	1,493.0	2,424.5	3,780.8
	(2)	67.0	122.8	277.8	604.7	1,249.2
	(3)	-	1.4	1.8	2.5	2.2
	(4)	-	3.1	4.2	4.0	3.7

* Source: U.N. Population Studies, No. 44, Growth of the World's Urban and Rural Population 1920-2000. United Nations, New York, 1969. (ST/SOA/Series A/44) Regional totals have been combined where possible to approximate World Bank groupings of developing regions.

(1) Burma is included in the totals for East Asia and the Pacific and not South Asia. North Korea and North Vietnam (not Bank members) could not readily be separated and are included in East Asia; they do not significantly affect the trends shown.

(2) Including Italy and Portugal which could not readily be separated. In mid-1969, the combined populations of these "developed"countries was 62.7 million (World Bank Atlas 1971) or approximately 31% of the regional population at that time.

(3) Excludes South Africa.

The U.N. estimates of trends of urban population change, as shown in Table 6, published in 1969,[50] are considerably less than those produced by Kingsley-Davis, or Professor Thijsse.[51] Even so, the urban population in developing countries in relation to total population (based on settlements with population in excess of 20,000), shows a significant increase every twenty years;

in 1920 the figure was 69 million or 6% of total population
" 1940 " " " 128 " " 9% " " "
" 1960 " " " 310 " " 15% " " "
and it is estimated that
" 1980, it will be 693 " " 22% " " "
and by 2000 " " " 1436 " " 31% " " "

TABLE 6

Urban/Rural Population of Developing Countries

	1920	1940	1960	1980	2000
Urban (above 20,000) Population (Millions)	69(6%)	128 (9%)	310(15%)	693(22%)	1,436(31%)
Rural and Small Town Population (Millions)	1,118(94%)	1,346(91%)	1,705(85%)	2,431(78%)	3,235(69%)
Annual rate of increase					
- in urban population	3.1%	4.5%	4.1%		3.7%
- in rural population	0.9%	1.2%	1.8%		1.4%

(50) op.cit. World Bank Report on Urbanization, Table 2, p.12. Source: Table 32 in "Growth of the World's Urban and Rural Population, 1920-2000". U.N. 1969. Estimates are an average of four alternative series based on existing trends and weighted for each region according to the assumptions judged most relevant.

(51) op.cit. Chapter 2, Section 2 of this thesis.

Plotting the information contained in Table 6 on $\log_2$ cycle graph paper (see Diagram 2, p.41), the rate at which the population is increasing in the urban areas compared with the rate of increase of total population for both the world population and the population of World Bank member countries, can be seen graphically. Identifying the reasons for this shift, and the means of accommodating this urban population at such a rate of increase, has become the cause for international concern.

Diagram 2 gives a quantitative indication that over the past decade, 1963-73, the urban population among World Bank member countries had increased by some 180 million, whilst total increase of population in those countries was some 460 million. The significance of this figure is the number of children below the age of 10, along with the immigrants from the rural areas, which go to make up this increase.

Both these figures give an indication, quantitatively, of the increase in consumer needs, and demands, which have to be provided in the context of currently accepted urbanization standards, i.e. aspiration towards improvement. From the physical planners point of view, the concern is for the amount of additional fixed assets which are necessary to provide adequate quality of life and urban standards of shelter (economic and other social structures), and the infra-structure necessary to sustain them, and this means the allocation of financial resources from the investment which is available, or can become available.

Historically, and especially in the U.K. and northern European countries during the 19th century, urban sanitary systems were introduced, along with clean water supply, drainage systems for waste water, and systems for the disposal of sewage and refuse (i.e. some of the attributes of the rising levels of urbanization); the infant mortality rate was reduced considerably in the towns, and endemic diseases brought under control. In the 18th century in the U.K., the life span expectancy was 25 years of age in places such as Liverpool and Manchester, and 35 years of age in London.(52) By the end of the 19th century it had increased to 55 and 60 years of age.(53)

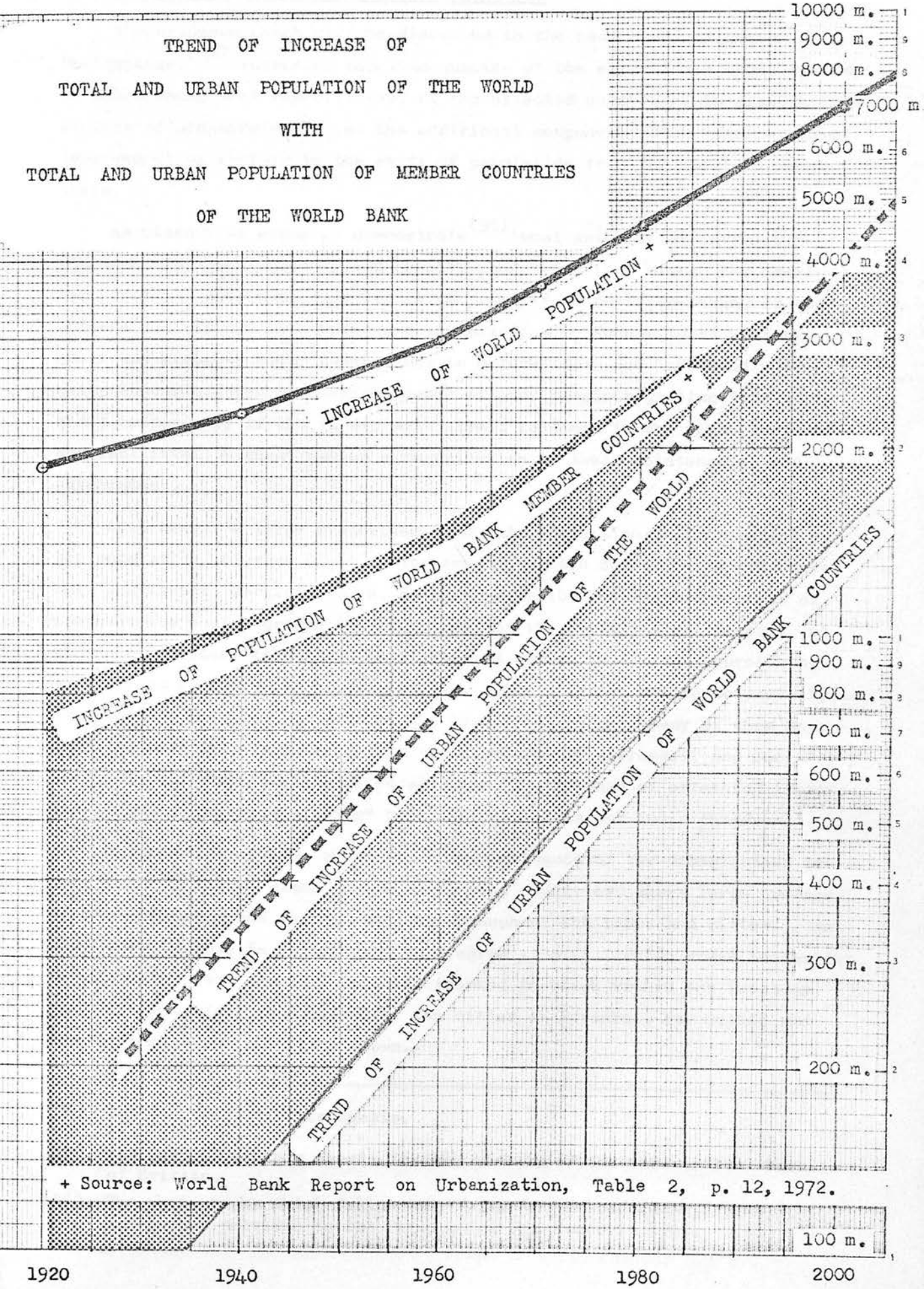
The protection of health in the urban areas is now accepted as a responsibility and function of Government, both at central level and local level in developing countries, and this is contributing to longevity, which tends to give an indication of an increasing birth rate, whereas, the increasing rate of population growth and demands is a result of a decreasing death rate, following the same pattern as 19th century U.K.

(52) George, Dorothy M., London Life in the 18th Century, Peregrine, 1966, Ch. I, & Kingsley-Davis, "The Urbanization of Human Population", Scientific American, September 1965, pp.41-53.

(53)

There is, over the past decade, (and previously), evidence of large areas of uncontrolled settlement in and throughout the larger towns and cities, settlements which do not conform to urban building regulations, do not have the usual urban services provided, the inhabitants of which are not registered as property owners (and therefore do not pay rates), very few of whom pay income tax because of their low earning capacity, and the majority of whom are not employed regularly; many do not have sufficient literacy or skills which fit them for employment in the urban areas, even if there was sufficient monetary flow throughout the town to provide some form of productive employment.

DIAGRAM No. 2.



+ Source: World Bank Report on Urbanization, Table 2, p. 12, 1972.

3. The increasing numbers of urban squatters

The evidence which will be discussed in the case study of the Philippines,[54] indicates the inadequacies of the established urban system, or urban management capabilities, of the affected countries, to sustain the process of urbanization, i.e. the additional component of the aspiration of improvement of society in the shift of population from the rural to urban areas.

As historical examples demonstrate[55] local authorities invariably represent the local established society, and this, very often, has local and parochial interests, and its first priority in decision-making is the concern for its own well-being and satisfaction. Such a local society, which has probably taken generations to mature, does not take kindly to being inconvenienced by a large number of poor people migrating into their midst, especially if the in-migrants expect to share in the urban services and facilities, without making a contribution to their maintenance, and advancement.

At present, a large proportion (and this proportion is increasing) of the population in urban areas of the less developed countries do not, have not, and cannot, participate in, or contribute to, the dynamic process of economic and social growth (which is part of the urbanization process), at the rate necessary to sustain the towns and cities in a state approaching equilibrium of the urban growth process. The will and desire to participate, no doubt, is there on the part of the in-migrant people, many of whom have migrated into the urban areas from the economically depressed, and socially isolated (and often neglected) rural areas, in the hope of attaining improvement in the "quality of living" both for themselves and their children.

Irrespective of the cause, the visual evidence of the urbanization process which is taking place in the developing countries, shows large colonies of slum, shanties and shacks emerging throughout the towns and cities. An indication of this is illustrated in Diagram 3, p.43 , which shows the extent to which the urban squatter colonies (marked in black within the built-up area of the cities), had grown for the cities of Istanbul, New Delhi, and Greater Manila[56] for the years shown.

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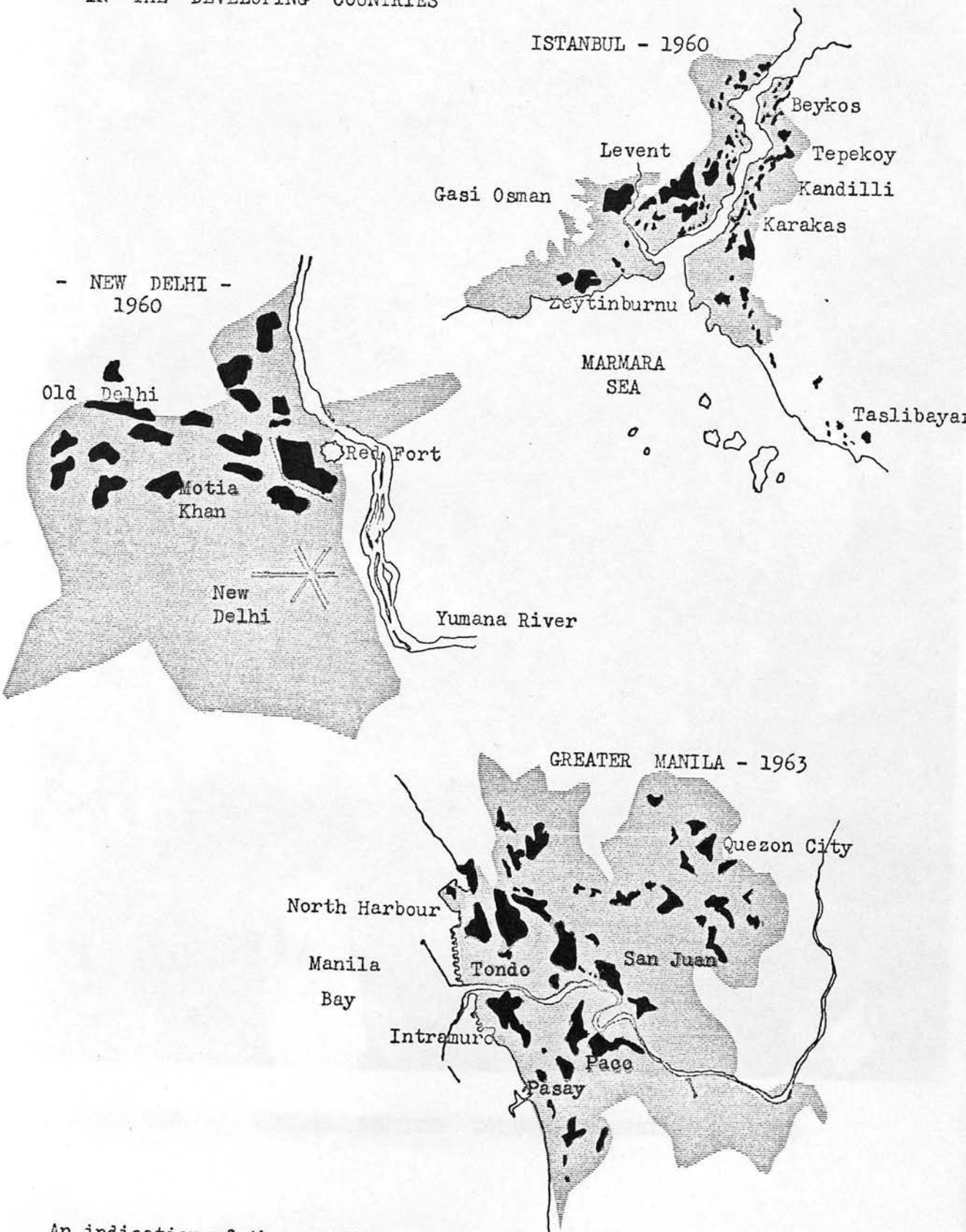
(54) See Chapter 3 of this thesis.

(55) See Part II of this thesis for the history of the Urbanization Process of Britain.

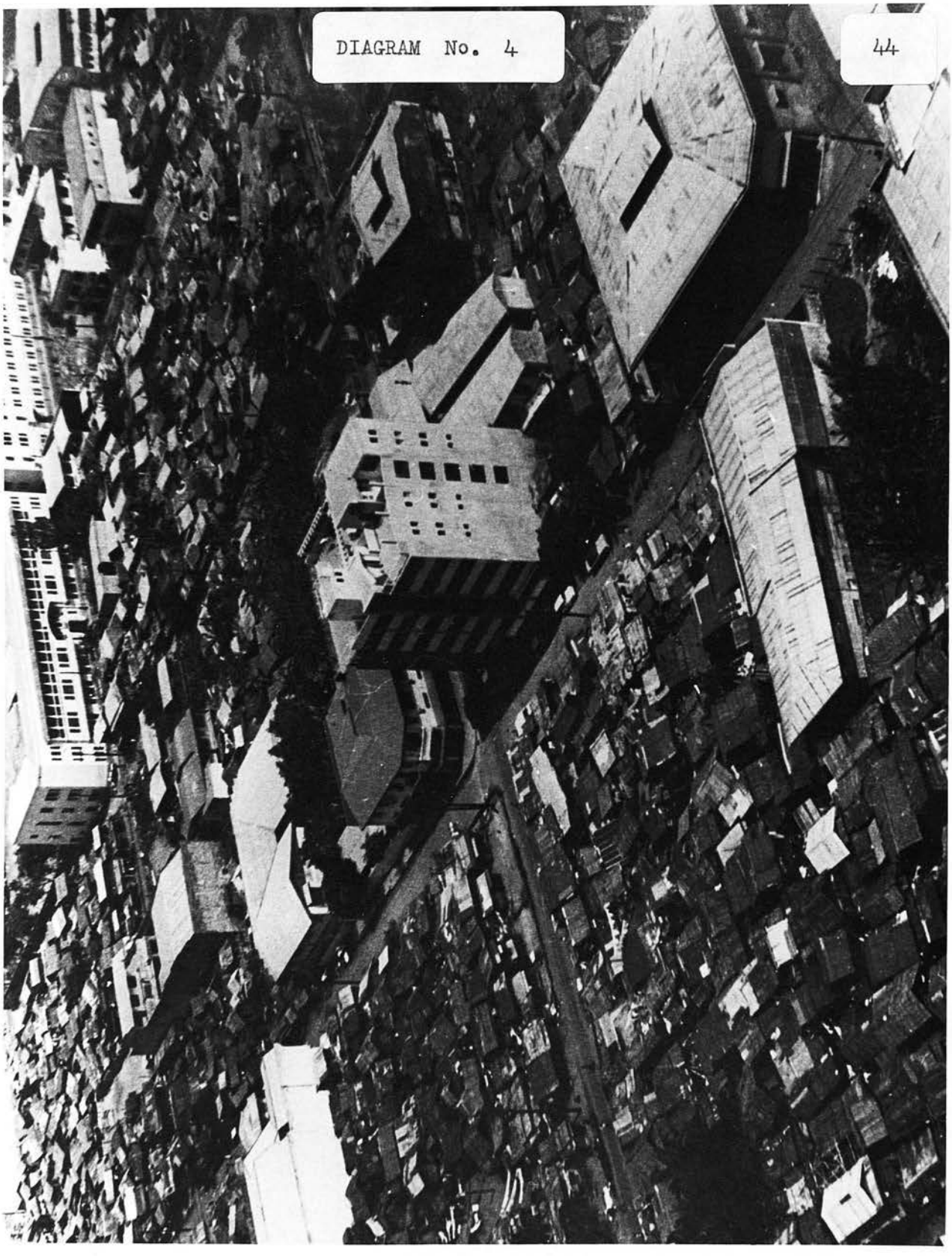
(56) The photographs which follow were taken by the candidate from a helicopter provided by the Philippines Air Force in 1963.

DIAGRAM No. 3

SQUATTER COLONIES THROUGHOUT THE BUILT - UP AREA OF THREE CITIES IN THE DEVELOPING COUNTRIES



An indication of the condition of the built urban environment of the "black patches" in Manila in 1963, which also reflect the conditions of living for the inhabitants is shown in illustrations 4 - 6 , on the following pages.



INTRAMUROS - TYPICAL SQUATTER COLONY IN MANILA (1963)

DIAGRAM No. 5

BINONDO - ANOTHER SQUATTER COLONY IN MANILA (1963)

PASAY DISTRICT - PART OF ANOTHER SQUATTER COLONY IN MANILA
(1963)

4. World Bank estimates of urban squatter increase

Diagram 7, p.48 , compiled from the World Bank Report,(57) and as shown on Table 7, p.50 , indicates that the estimated number of persons involved in 1960 among the World Bank member countries was some 66 million, i.e. approximately 13 million households; this number is expected to increase (despite all the efforts which have been made, and are proposed at present) to 100 million (or 20 million families by 1980, i.e. six years from now), and to 300 million (or 60 million families) by 2000 A.D., i.e. in a further 20 years time, or in the life span of one generation.

These projections indicate that the World Bank specialists expect the conditions which have prevailed since 1960 (wherein 40% of the larger city population were urban squatters), to have been reduced to 30% of the large city population by the turn of the century, i.e. in the succeeding 40 years. The number of persons involved however, would still be 300 million urban squatters in 2000 A.D. as compared with 66 million in 1960.

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(57) op. cit., Table 6, Annex I, p.82.

BACKGROUND TO THE URBANIZATION TREND IN DEVELOPING COUNTRIES

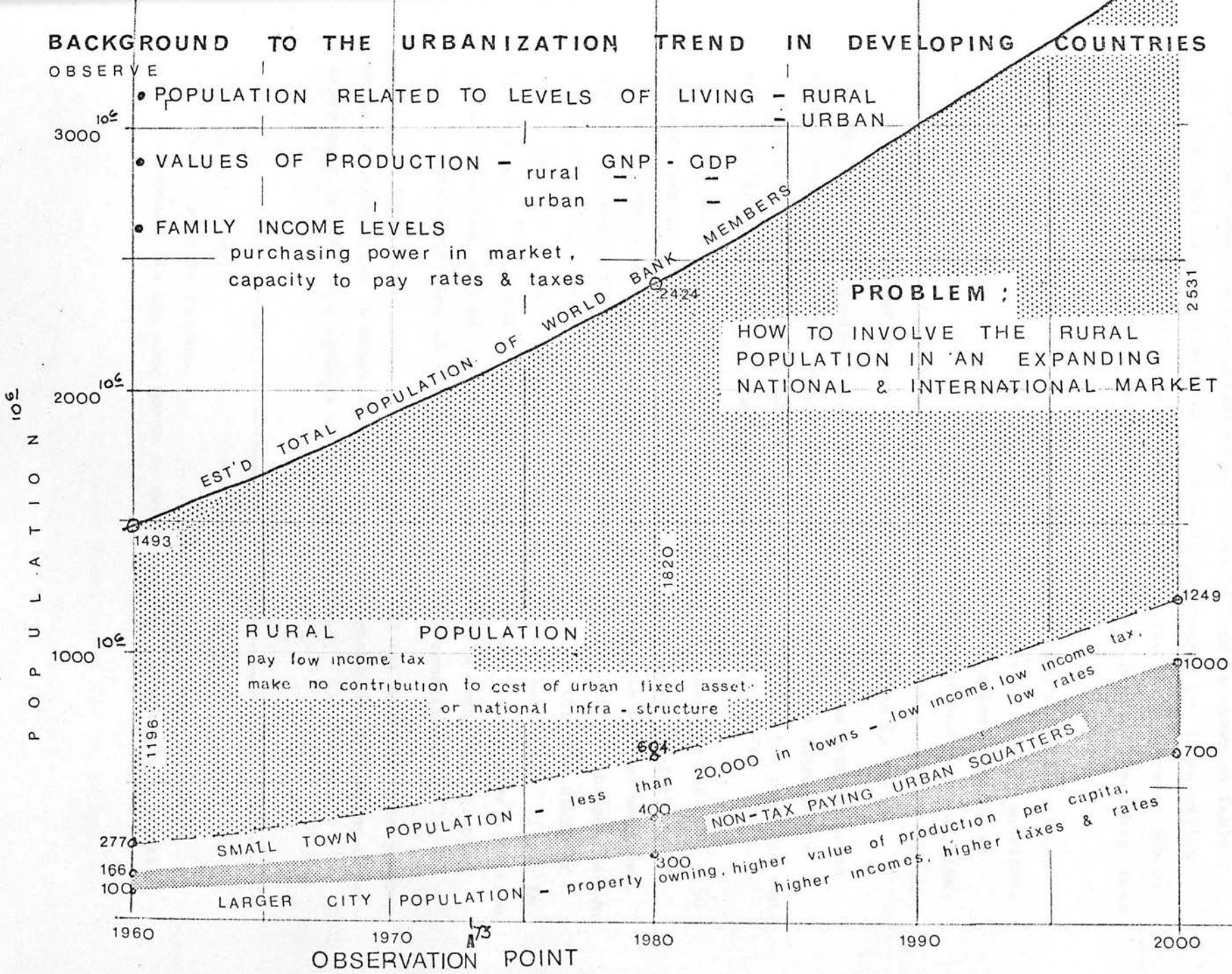

DIAGRAM No. 7

M.J. / 73

One of the contributory causes of the large city disequilibrium is the accelerated movement of population from the rural to urban areas. World Bank demonstrates, from a selection of cities,[58] and as shown on Table 7, that over the past 20 years, the increase in population for those cities listed was derived mostly from additional in-migrants. On average, 58% of the increase of population into these cities over the past 20 years has been in-migrants.

Obviously, if the squatters have a capacity to earn an income or can fill the labour needs of the town or city, and participate in and contribute to the citizenship of that town or city, there is no problem which is of international concern, either from an economic and investment point of view, or from a humanitarian concern, nor would there be an 'urban crisis', which the International Union of Local Authorities met to discuss in 1967.

What has been brought to international attention is the problem posed by the uncontrolled urban settlements (and their tendency to increase in numbers annually at rates as high as 12% to 15% a year), and the possible consequences of this trend (as described best by Barbara Ward).[59]

In the three case studies selected for Africa, as shown in Table 8, p.50 , the slum and uncontrolled urban settlement population accounted for 31% of the total population of the cities. Among the Asian case studies selected, and for the years in which the studies were carried out, 27% of the population of the cities was living in slum-squatter colonies. In the case study of Turkey, (for the European area,) 60% of the population of Ankara was living in 'gecekondu', [60] and 65% of the population of Izmir was in the same condition. In Latin America, 47% of the large city population from among the selected case studies was living in slum-squatter-shanty town conditions.

It is the increase annually of this number, and the possible consequences on the deterioration of urban life as a whole throughout the developing countries that is seen as a symptom of the 'urban crisis'.

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(58) op.cit, p.80.

(59) Page 5 of this thesis.

(60) 'Gecekondu' is the name given to urban squatter colonies in Istanbul.

TABLE 7

Estimates of Migrants as a Percentage of Recent Population Increases

City	Period	Total Population Increase (Thousands)	Migrants as a Percentage of Total Population Increase
Abidjan	1955-63	129	76
Bogota	1956-66	930	33
Bombay	1951-61	1,207	52
Caracas	1950-60	587	54
	1960-66	501	50
Djakarta	1961-68	1,528	59
Istanbul	1950-60	672	68
	1960-65	428	65
Lagos	1952-62	393	75
Nairobi	1961-69	162	50
Sao Paulo	1950-60	2,163	72
	1960-67	2,543	68
Seoul	1955-65	1,697	63
Taipei	1950-60	396	40
	1960-67	326	43

Sources:

Etude Socio-Economique de la Zone Urbaine D'Abidjan, Societe d'Economie et de Mathematique Appliquees, Paris, 1967.

Bogota Transport and Urban Development Study, Phase I (draft report), Vol. I, Freeman, Fox, Wilbur Smith and Assoc. Restrepo y Uribe Ltda., Bogota, 1970.

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Yoon, Jong-Joo, "A Study on the Migration Magnitude of Seoul", Journal of Population Studies, No. 2, Seoul, 1966.

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TABLE 8

Extent of Slums and Uncontrolled Settlements in Various Cities in Developing Countries

Country	City	Year	City Population (Thousands)	Uncontrolled Settlement Total (Thousands)	Uncontrolled Settlement As % of City Population
AFRICA					
Senegal	Dakar	1969	500	150	30
Tanzania	Dar es Salaam	1967	273	98	36
Zambia	Lusaka	1967	194	53	27
ASIA					
China (Taiwan)	Taipei	1966	1,300	325	25
India	Calcutta	1961	6,700	2,220	33
Indonesia	Djakarta	1961	2,906	725	25
Iraq	Baghdad	1965	1,745	500	29
Malaysia	Kuala Lumpur	1961	400	100	25
Pakistan	Karachi	1964	2,280	752	33
Republic of Korea	Seoul	1970	440(d.u.)	137(d.u.)	30
Singapore	Singapore	1966	1,870	980	15
EUROPE					
Turkey	Total Urban Population	1965	10,800	2,365	22
	Ankara	1965	979	460	47
		1970	1,250	750	60
	Izmir	1970	640	416	65
NORTH AND SOUTH AMERICA					
Brazil	Rio de Janeiro	1947	2,050	400	20
		1957	2,940	650	22
		1961	3,326	900	27
	Brasilia	1962	148	60	41
Chile	Santiago	1964	2,184	546	25
Colombia	Cali	1964	813	243	30
	Buenaventura	1964	111	88	80
Mexico	Mexico City	1952	2,372	330	14
		1966	3,287	1,500	46
Peru	Lima	1957	1,261	114	9
		1961	1,716	360	21
		1969	2,800	1,000	36
Venezuela	Caracas	1961	1,330	280	21
		1964	1,590	556	35
	Maracaibo	1966	559	280	50

Source: UN General Assembly, Housing, Building and Planning, Problems and Priorities in Human Settlements, Report of the Secretary General, August 1970, Annex III, p.55. Definitions vary; additional details are given in the source quoted.

Note: d.u. = dwelling units.

Diagram 7, p. 48, illustrates graphically the anticipated change of population in rural-urban proportions, portrayed quantitatively in terms of:-

(i) the larger city (property owning, higher income, higher value of production per capita, tax and rate paying citizens),

(ii) the non-tax paying, very low income urban squatters,

(iii) the small town population (i.e. less than 20,000 in the towns, usually with middle to low income, less tax and rates paid than in large cities, lesser value of production per capita than in larger cities),

(iv) the rural population.

The estimates are based on the trends of the past 20 years, and on the known existing policies for urban investment and birth control, and apply only to the World Bank member countries.

The evidence available suggests that the most rigorous efforts by Government or international agencies to introduce birth control will not noticeably reduce the number of people who will need accommodation, food, clothing, employment, and who in turn will require an improvement in their quality of life over the next 20 years.

India is a country which adopted an official policy of mass sterilization; by 1968, 3.5 million had undergone the operation, and this alone is calculated to prevent the birth of a further 10 million over the next 10 years. The population of India, then, of 515 million was estimated to be increasing at the rate of 13 million a year.(61)

Viewed in isolation, each of the Governments is caught in the dilemma as to the way in which it can allocate the meagre resources of the country to provide adequate housing and a high urban standard of living, and yet attain the optimum rate of economic growth for the country as a whole.

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(61) Csripati Chandrasekhar, Minister of Family Planning, Release of Statement, Council of State, India, March 1968.

5. The enigma of developing countries - savings from poverty

In general, economists[62] require that programmes of development, irrespective of whether they concern investment into social development, urbanization, national infra-structure, or such, must satisfy three economic tests before they can be accepted as valid:

1. Real product must result from the use of the money invested;
2. the resources necessary to carry out the programme envisaged, (and this includes human resources) must be either actually available, or capable of being made available;
3. the government, or the institution responsible for the programme, must be empowered (and in a position), to allocate its resources specifically to support those sectors where they are needed, at the time they are needed, and, be able to agree on the reallocation of the financial resources (which are available) in such a way as to accomplish the proposed programme of development.

Efforts are made by the policy-makers and advisers to optimize the growth process, which is often interpreted to mean accumulating capital at the highest rate of increase possible, without taking into account the total system, human values and human contribution to development. Growth is measured only too often in terms of the value of real product added each year, and is finally measured in terms of Gross Domestic Product and/or Gross National Product.

This is coming under review, and in 1972, the well-known economist, P.A. Samuelson,[63] re-examined the concept of measuring economic growth, and questioned whether the current method is the best way of achieving the ultimate goal of growth and development for the many developing countries. Samuelson has suggested that G.N.P. be either replaced, or supplemented, by the concept of measuring National Economic Welfare (NEW), which would give a corrected version of G.N.P., in the following way;

(i) subtract from the conventional contribution the non-material disamenities that have been accruing as costs to the economy,

(ii) add items which have been (irrationally) excluded from G.N.P. (such as housewives services, value of expounded leisure, etc.)

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(62) Stone, P.A., Resources of Economic Framework "Developing Patterns of Urbanization, p.31, Oliver and Boyd.

(63) Samuelson, P.A., Nobel Prize Winner, Prof. Economics M.I.T., see "From G.N.P. to N.E.W.", Newsweek, April 9, 1973, N.Y.

What is of particular concern to the physical planner, or those concerned with urban planning and urbanization, is that proportion of the national wealth which is normally available for investment into the fixed assets, (and therefore, the building industry), with which to build the urban form in a settlement spatial system to meet the needs of the total society, and the system which is used for measuring the value added by such investment.

The source of this investment capital is either from 'savings', which have been accrued from either the private sector or the public sector, or from borrowings and loans, which might have originated from the official sector, multi-lateral or bi-lateral, or from the private sector, multi-national corporations.

Development which has been initiated with external loan money imposes on the Government, (and the country), a commitment to repay the loan with interest over an agreed period of time. With interest rates now reaching 10%, the burden of repayment of such loans becomes severe for the developing countries, and in some cases, new external loans have to be negotiated as a means of amortizing former loan commitments.

In 1972, the external public debt of World Bank member countries (i.e. mostly the developing countries, which remained outstanding, was some U.S. $ 79,218 million; this sum had increased over the previous two years by some U.S. $ 18,337 million.(64)

Most governments in the developing countries today have to face the challenge of accruing domestic savings for accelerating the development process in the light of the foreign loan repayment commitments. As Chapter 1 demonstrated, most are in the process of 'rapid urbanization', which, in itself, makes new demands on the economy, but in its present form, it offers only the potential for adding to the expansion of the economy; a great deal of investment into the urban system is necessary before it can become the prime generator of economic growth.

The paucity of savings, coupled with a high rate of population increase, has long been regarded as the reason for continued under-development in many countries.

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(64) World Bank Annual Report, September 1973.

Dr Ragnar Nurske describes it as "a circular constellation of forces tending to act and react upon one another in such a way as to keep a poor country in a state of poverty".(65)

As an example to illustrate this point, one can examine the poor, undernourished urban squatter; being underfed, his health, energy and morale are weakened considerably, and his capacity to do the only work he is capable of doing, (i.e. unskilled manual work), is greatly reduced. Because his personal productivity is low, his income remains low, and so the circumstances retain him in a state of poverty, a state from which he is unable to save, or even to raise sufficient money to buy enough food for himself and his family. Within such a cycle in the social system of a poor country the urban squatter and his family stay at near starvation level, with no means of escape.

One can then raise the question as to whether such a set of circumstances is the concern, or is in any way a responsibility, of either central government or local government. In developing countries, the income of central government is comparatively low, and local government income is proportionately less per capita. What has to be identified, is the procedure by which the constraints of the cycle of poverty can be broken to permit the gradual increasing of levels of living for an increasing population, nearly 40% or 50% of whom are less than 20 years of age.

Low real income is invariably a reflection of low productivity, to which the absence of capital for investment is (or usually is), a significant contributory cause; the absence of any local capability to invest can be attributed to the small capacity of a country to save. The cycle of poverty which can trap the urban squatter, acts similarly for a country at national level. Accumulation of capital for investment, which provides the means of economic growth, depends upon the capacity of the country to save, whereas, the demand for capital depends upon the incentives which are available throughout the investment sectors of the country, public or private, which will attract the investment of the available local (or foreign) capital.

As Lampard pointed out,(66) in relatively simple terms, 'urbanization' is concerned with the process of attaining certain pre-determined 'levels of urban living', much of which can be quantified, and the attainment of which, in our western political economic system, is governed by the amount of money

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(65) Nurske, R., Problems of Capital Formation in Underdeveloped Countries, O.U.P., N.Y., 1964.

(66) op.cit., Chapter 1, Section 6 of this thesis, p. 27.

which is in circulation, the rate at which the money is flowing through and into the urban areas. The built urban form which provides the physical environment, on which the quality of life is so dependent, is dependent upon the amount of investment which can be allocated, channelled or encouraged into construction in the urban areas, whether from national, local, public or private sources. This investment can be derived from local 'savings' or from foreign loans.

Savings can be accumulated from

'induced savings', (e.g. pension funds, unemployment benefits linked to a payroll tax)

'voluntary savings', (e.g. local investment according to incentives available)

'foreign savings', (e.g. gifts of foodstuff from abroad)

'domestic savings', (e.g. from government controls on consumer spending and imports)

'compulsory savings', (e.g. taxes on income, spending and other transactions, duties on goods, etc., or local authority rates on land and property).

Savings can be accounted for in different ways, but their measurement is invariably in the context of the market supply and demand, consumer spending and trade balances. During the decade 60's, the F.A.O. introduced a system of foreign aid by way of gifts of surplus wheat and other foodstuffs, by which the recipient government could use this food as a form of payment for labour, especially in self-help or community development projects.(67) The wheat and foodstuffs donated in this way meant that the donor countries did not have the use of the stock for their own use, but it was used to provide labour which was intended to produce community needs in a poor country.

This type of "foreign savings" for a country has alleviated much hardship which the recipients would have otherwise suffered, but with the irregular surpluses of foodstuffs this type of programme is not considered as a continuing contributor to the total urban construction programme in developing countries.

Usually, investment to extend any part of the built urban form, or to build new towns, has to come from "domestic savings", and the rate at which domestic savings is accumulated has to be measured carefully in relation to the problem of inflation. The accumulation of domestic savings in developing countries usually requires self-imposed restraint on spending on

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(67) The World Food Programme was established by F.A.O.

consumer products, permitting available resources to be used to lay down the essential infra-structure which can provide the incentives for further investment for urban growth. At present, very few governments recognize an obligation to concede that the built urban environment, beyond regulations protecting public health, protection against fire hazards and structural safety, is their responsibility.

Any system for maintaining rational economic growth requires a disciplined form of national planning and policing; as John Maynard Keynes pointed out in his General Theory of Employment, Interest and Money, in 1935, the laissez-faire system is very rarely self-balancing or self-correcting, because spending is almost always cumulative.

Beyond the normal taxation system, some governments, and Brazil is noted as an example in this thesis, have turned to a system of induced savings, as a means of financing low income houses and some urban infra-structure.

The way in which the money flows between each of the principal financial sectors in the U.K., as reflected by the national accounts,(68) is illustrated in Diagram 8, p.58. This diagram could be described as a simplified gross model of the cash flow of the national accounts system, and is intended to show the source of capital for investment into the fixed assets. The actual value of money moving from one sector to another each year can be regulated, and the decisions on how much should be encouraged or directed into any particular sector, either for pre-investment purposes, or to stimulate expansion of the local economy, or into the social sector to avoid diseconomies, or into enterprises, (such as development banks or corporations to provide essential infra-structure and services), or what concessions and incentives need to be provided to encourage private investment into the various sectors of the economy, are in the discipline of political economics, and are among the most complex problems facing developing countries today.

Planners are concerned that the total economy is buoyant enough to justify the flow of an appropriate allocation of investment funds (usually, in the U.K., approximately 10% of the Gross Domestic Product into the construction industry) with which to plan and build all the fixed assets needed to satisfy the human settlement needs and demands of the country.

The actual investment sums are used throughout the spatial structure of both rural and urban settlements of the whole country, and within the

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(68) National Income and Expenditure, C.S.O. (Annual) HMSO.
Diagram based on publication for 1972 accounts.

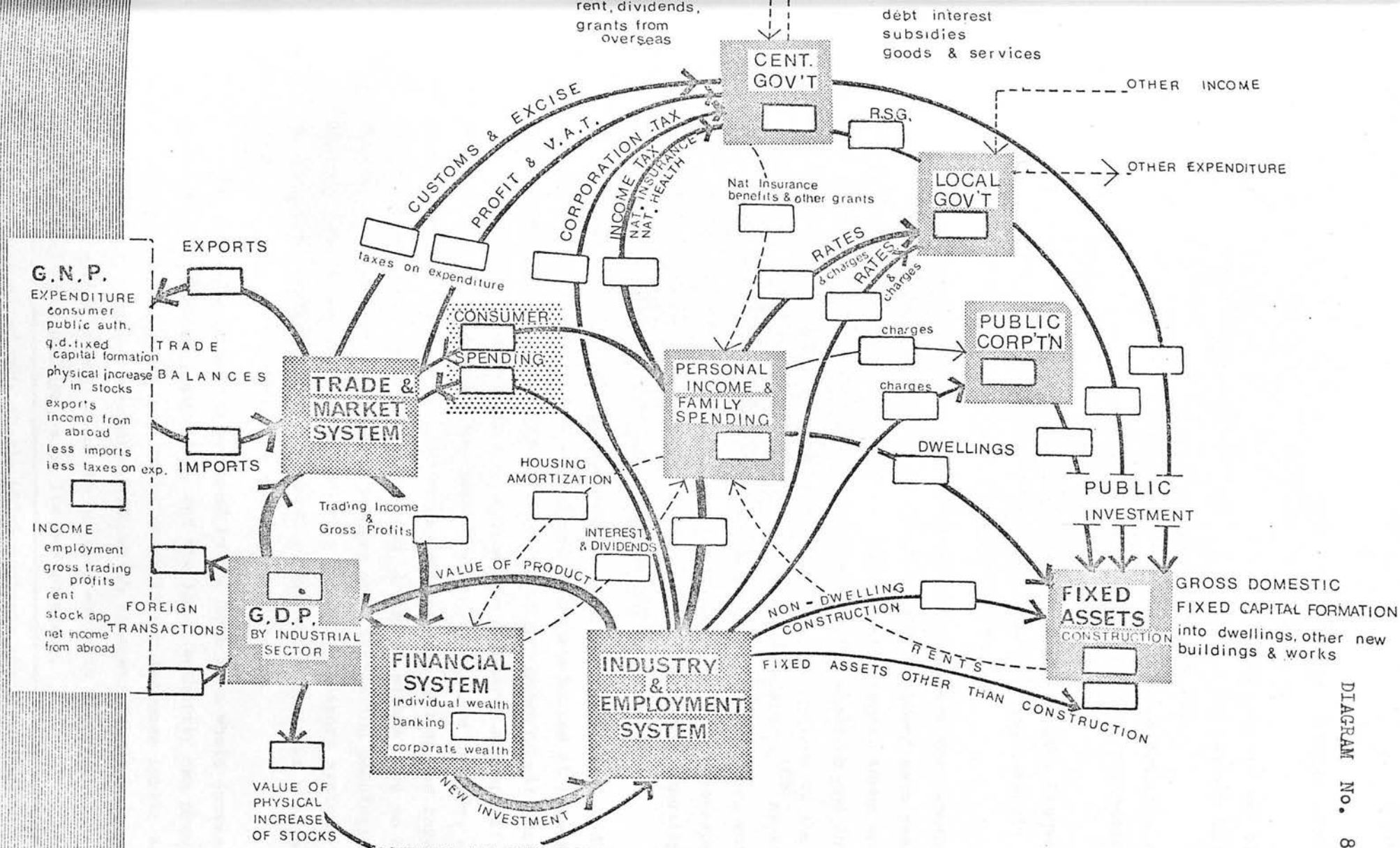

DIAGRAM No. 8

SOURCE OF INVESTMENT CAPITAL FOR THE FIXED ASSETS (Construction)

OF THE BUILT ENVIRONMENT

IN THE CONTEXT OF THE NATIONAL CASH FLOW

Figures can be inserted from National Accounts for any one year MJ '73/4

spatial allocation of the investment, it is further divided according to the sector in which it is needed, be it spending on:

1. economic assets, which include government and private office accommodation, industrial, manufacturing and storage buildings, commercial buildings and shops, and such like;
2. social assets (though obviously these have an economic value as well), such as housing, hospitals, schools, recreation, amusement, sporting structures, etc.;
3. infra-structure, such as water supply and sewage, highways, roads, and access streets, power supplies, mass transit systems, whether rail, harbour or airports, etc.

Irrespective of how the national accounts are written, whether progress is measured by the value of gross national product added each year, or whether National Economic Welfare is taken into account, towns and cities are the result of a conscious allocation from the spending and investment resources of the country being devoted to the construction of the built urban form. Society in cities have, in recent history,(69) prescribed standards of structure, design, space allocation and land use, and these have tended to change over periods of time, tending invariably towards an overall improvement for the resident urban society, demanding annually an increasing investment from both private and public sources.

As the towns and cities increase in physical size, area, and in the number of people who have to be accommodated, and housed at prescribed urban or city standards, so the administration and processes of city life become more complex. More demands are made on the standards and specifications of construction to protect the inhabitants against fire hazards, and additional demands are made on city cleansing systems, and on the capacity of the water supply. Sewage disposal and treatment plants have to be considerably enlarged and become more complex with increasing population. Streets have to be wider, and much more complex transport systems have to be operated efficiently, with specifications which can take much heavier loads than that required in the smaller rural towns.

If the value of wealth produced by the town as a whole increases proportionately with the population, and the local authority can provide an effective town management system by which it can increase public services, and provide a planning mechanism with which to sustain a high (or acceptable) standard of urban living, then the society survives for as long as it continues to meet the challenges of its own survival.

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(69) See Part II of this thesis, which analyses the urban growth process in Britain over the past 1000 years.

According to the urban standards set by the city authorities and establishments for their own convenience and survival in the 20th century, the investment into fixed assets per capita of population tends to increase in relation to the increase in the resident population of the town or city. Many of the cities of the developing countries are increasing in population without the income, or the value of production from which to accrue income, to invest in the planned orderly growth of these cities. The result is the excessive growth of the urban squatter colonies, as illustrated in Diagram 7, p.48, and illustrations 4 to 6. In themselves, these urban squatters are viewed by some policy-makers to be a benefit for the city, in that there is an abundance of cheap labour which can be exploited as and when needed, whilst other policy-makers view the urban squatters as a cause of frustrating the orderly growth of the town, and deterring investment.

Much investigatory work has yet to be carried out into the urban growth processes in developing countries, into the stages of growth, urban standards contained in the building regulations, the economic growth process of the town in relation to the occupational sector and the resident population, the optimization of capital intensive labour absorption industries, and the extent to which taxes and rates can be taken from the 'cash flow' of the town to provide public services. The impact which the rapidly increasing human settlements have on the ecological environment of their location is similarly a study on which much additional research work is needed, especially with the excessively high concentration of people which is now beginning to take place in the developing countries.

Unlike the local government system in the U.K., where the central government at present allocates more than 1/6th of its budget as a Rate Support Grant to assist local governments[70] (and this payment constitutes nearly half of the total expenditure by local governments, and is still inadequate to meet all their needs), the government fiscal in developing countries rarely has an income or budget which can support local authorities in this way.

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(70) op. cit., National Income and Expenditure, 1972.

6. Town development and housing - a contribution to national growth

Though it may not have been spelt out in specific terms, at least by inference and assumption, the level of urbanization of a country is measured by the level of quality of houses in which the people are accommodated. In a British type urbanizing society, the annual value of investment into gross domestic fixed capital formation in the recent decade was approximately 20% of gross domestic product. Investment into the growth and development of the towns accounted for approximately 50% of this, (i.e. 10% of G.D.P.), and 33% of this was invested in the construction of dwellings, i.e. 3.3% of gross domestic product per annum has gone into housing. This means that a large sum of money is being used to provide employment, which has many multiplier benefits, as well as creating the built urban form and environment for the well-being of the people of the nation.

Where the optimization of gross national product is the first criteria of achievement, the importance of continual investment into housing and town development, as a contributor to total national growth and development, is not always recognized in the developing countries. The omission to ensure a strong and competent national building construction system, with an orderly urban system in a national infra-structure, which permits the uniform and progressive development of the nation as a whole, accommodating the increasing population in towns and the countryside, overtaking the backlog of deficiencies in literacy, nutrition, employment skills, manufacturing skills for import substitution needs, only retards the total development process, and retains the country in "the cycle of poverty".

The housing and building industry can provide the means of strengthening the national economy and contributing to domestic growth. A strong and buoyant housing and construction industry, serving both the public sector and the private sector, for families of all income levels, (including provision for the destitute), makes a contribution to total development which is both significant and continuing. Investment into fixed assets generates a demand for goods and materials for the construction industry, which in itself, is the incentive for more investment, preferably from local sources; value is added to national wealth. The rebuilding of many parts of the old towns and cities requires investment to maintain property values, but also requires a highly competent building labour force.

The extent to which the housing market and housing industry inter-acts, and is inter-dependent, with so many other sectors of national growth and development is illustrated in Diagram 9 , p. 63, "Elements of the Housing Market and Housing Industry". The diagram can be applied at national scale or local town scale, and demonstrates graphically the component parts of an information system which can be used for monitoring,and decision-making,to optimize the use of available resources, or to calculate the pre-investment needs from one sector to provide incentives for investment for another.

One can begin from the HOUSING NEED, which takes into account the existing housing stock, demographic changes, periodic changes in housing need, measured by families of income levels (i.e. amortization capacity) and family sizes. The standards of accommodation which are statutorily declared as suitable for families of various sizes and ages are related to the final balance of housing need, either immediately, or as estimated for a future date.

This is related on the one hand to total investment required, which is a summation from the housing needs, the standards of accommodation which have been set, the specifications of housing, space about buildings, and land, costs of construction and land, related to what the resources of the housing industry, or the public authorities, can provide.

The balance of the housing need, on the other hand, is related to the economic circumstances of the community, the occupational sectors, the value of output and product, family incomes and home amortization capability (i.e. family budget spending habits).

These summations provide the quantitative measurement of the housing needs with the capability of the industry and the market to provide such needs on a programmed basis; the number of dwelling units, the materials to be supplied, the land and infra-structure services which have to be provided to support the above, are related to the investment required to bring the housing into existence in an orderly urban system to satisfy the market demand. There is then the vital component of location of each house within the context of a statutory physical plan, to ensure efficient use of land and environment.

Government decisions, both central and local, are required in the permissable allocation of investment funds, either from private sources or from public sources, to meet the balance of housing need.

ELEMENTS OF THE HOUSING MARKET & HOUSING INDUSTRY
FOR COMMUNITY OR REGION

A SYNTHESIS OF THE VARIOUS DEPENDENT VARIABLE ELEMENTS

INVOLVED BY WHICH THE ALGEBRAIC TERMS CAN BE QUANTIFIED

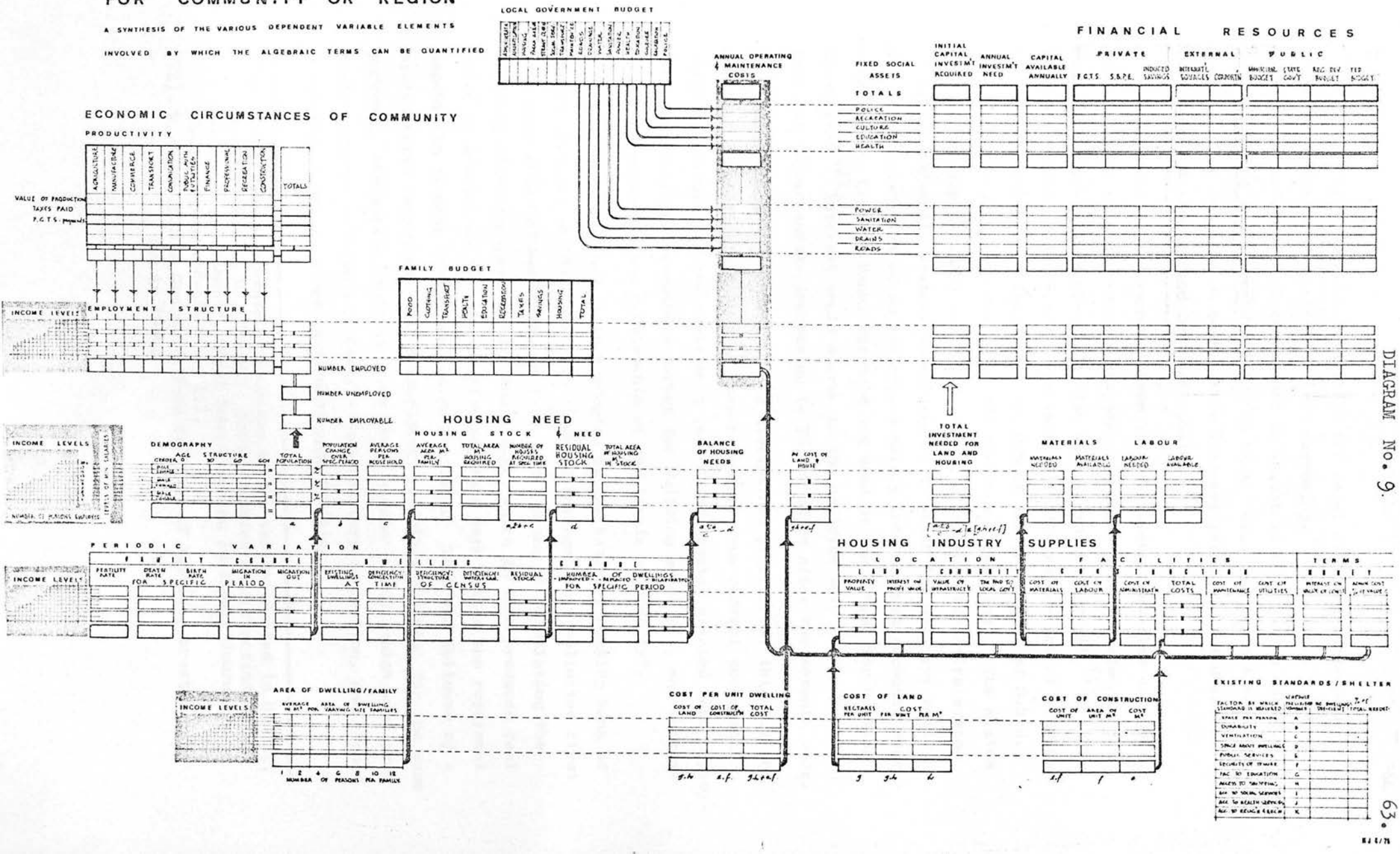

DIAGRAM No. 9.

The monetary resources available for total national development are available either from savings or from borrowing. The extent to which the private sector can be encouraged to invest in the housing market depends on the incentives available to them; usually, it resolves itself into a decision on competitive interest rates, dividend rates, combined with time period for amortization.

An example of a government from the developing countries category which accrued savings from its own domestic market for investment into housing and urban development for the poor is that of Brazil.(71) The National Housing Bank (B.N.H.) was instituted to provide decent housing for the low income families; by law, 60% of the investment of B.N.H. was to be invested into dwellings for low-income families. The system adopted for capitalizing the B.N.H. was to offer an alternative system of labour indemnity against unemployment, by which the employer would pay an additional 8% of an employee's salary into a trust account, supervised by the Central Bank, but held and used by the B.N.H. for housing investment.(72) Interest would accrue to the employee only after the third year, at 3% per annum, increasing to 7% per annum after the seventh year.

Under carefully controlled and disciplined procedures, this set in motion a capitalization process (non-budgetary from central government) which contributed to the investment into fixed assets, created more employment opportunities, created a market for building materials, and contributed to overcoming the constraints of the "cycle of poverty".

The case described is that adopted by the National Housing Bank of Brazil (B.N.H.) in 1967, in which 'induced savings' were collected first to invest into housing which, in turn, was a means of stimulating the building industry, creating more employment, which in turn produced real value of product as the amortization payments were within the repayment capability of many of the low income families. This was followed by a system (with incentives) for encouraging 'voluntary savings' for the same purpose; the public could purchase 'real estate' bonds, which were protected against inflation by Central Bank monetary correction, and earned a dividend equal to other investment opportunities.

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(71) For a more elaborate explanation of the system adopted in Brazil, see Juppenlatz, M., "Brazil, urban planning as a function of national government", Royal Town Planning Institute Journal, Feb. 1972, pp.58-68, Annex III.

(72) F. G. T. S.;The Guarantee Fund for Time of Service, created by law in 1966.

Diagram 10, p. 65, shows the cycle of the growth and expansion which was put into effect by the National Housing Bank of Brazil, by which it became a stimulating, strengthening and integrating organization that increased employment opportunities, augmented family incomes, improved community and urbanization facilities, raised levels of living, and provided more savings for expanding the cycle of investment.

DIAGRAM No. 10.

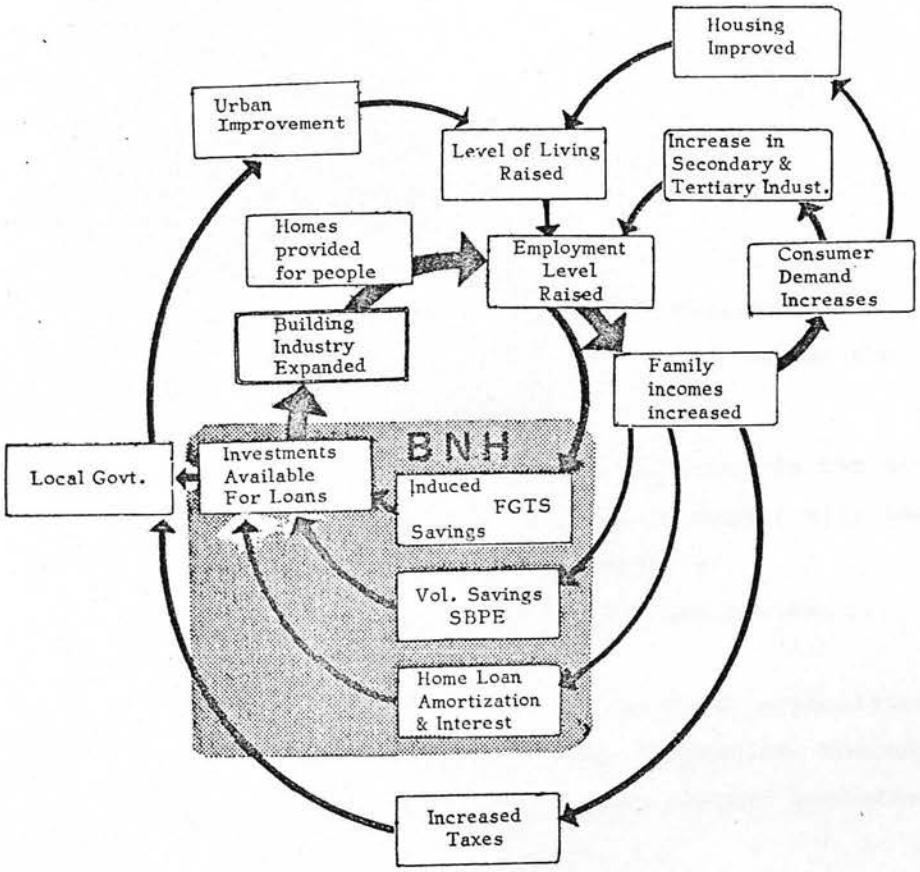

Diagram shows the effects of BNH as a stimulating, strengthening and integrating organization that increases employment opportunities, augments family incomes, improves community and urbanization facilities, raises levels of living and provides more savings for expanding the cycle of investment

The strategy adopted by B.N.H. was to use the controllable forces of the urbanization process to generate both (i) a process of positive (and cumulative) cyclical interaction of cause and effect, and (ii) the resources needed for the progressive expansion and satisfaction of the basic housing and urban needs of the population. Each component of the diagram comprises a matrix of quantifiable information, and the impact of any amount from each first matrix in the cycle upon the second matrix can be measured quantitatively. It illustrates the cycle of B.N.H. investments which have been providing self-generating effects on the urban areas and the economy as a whole, and:-

MAKES CAPITAL AVAILABLE FOR
home loans
building industry
local government
which in turn stimulates the
BUILDING INDUSTRY
which increases the number of dwelling units,
the process of which
CREATES MORE EMPLOYMENT
which results in an additional number of employers
contributing 8% of the payrolls to further capitalize the
Home Finance System through F.G.T.S.

The increase in employment opportunity for those in the minimum salary scale[73] increases the money flowing into and through family incomes, which provides an increased capacity for more families to:

(i) save and invest in the Savings and Loans System;
(ii) amortize their B.N.H. home loans;
(iii) pay taxes for public services to the local authorities;
(iv) circulate more money into consumer industries, thereby creating the opportunity for further 'minimum salary' employment.

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(73) Brazil has introduced a method of payment according to 'minimum salary', which is monetarily corrected against inflation to preserve the real value, and corrected every three months to cover rises in the cost of living.

The demand for household and domestic consumer goods increases, and though this is often seen as a market for the large automated manufacturing plants in the big cities, it also provides an opportunity for small-scale local enterprises, by which local economies can be expanded. The net result is a trend towards increasing employment levels still further, as more money is being circulated for consumer and service industries.

Diagram 11, p. 68, shows diagrammatically, the way in which 100,000 units of capital,(74) made available by B.N.H., was matched by a similar amount from other sectors and agencies, i.e. by "voluntary and further induced" savings, which included the obligation of local governments to contribute to the programme, and gives an indication of some of the multiplier benefits which resulted in employment opportunities by the use of the money in the home construction industry. This diagram, which needs little explanation in this text, is included to demonstrate that some of the developing countries, by force of the circumstances prevailing in their countries, and in response to the challenge before them, can, and are, innovating new monetary approaches to solve the problem of financing urbanization.

In consequence, the national economy is strengthened, and the whole country moves in a direction of growth, development and political stability, which then provides the incentive for attracting more external support for the developmental process.

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(74) Unidade Patrone Capitais, or Model unit of Capital, valued at the time at the equivalent of U.S. $ 10.

MULTIPLIER EFFECTS, EMPLOYMENT CREATED, AND ACTIVATION OF THE NATIONAL ECONOMY THROUGH A LOAN OF U.P.C. 100,000 BY B.N.H.

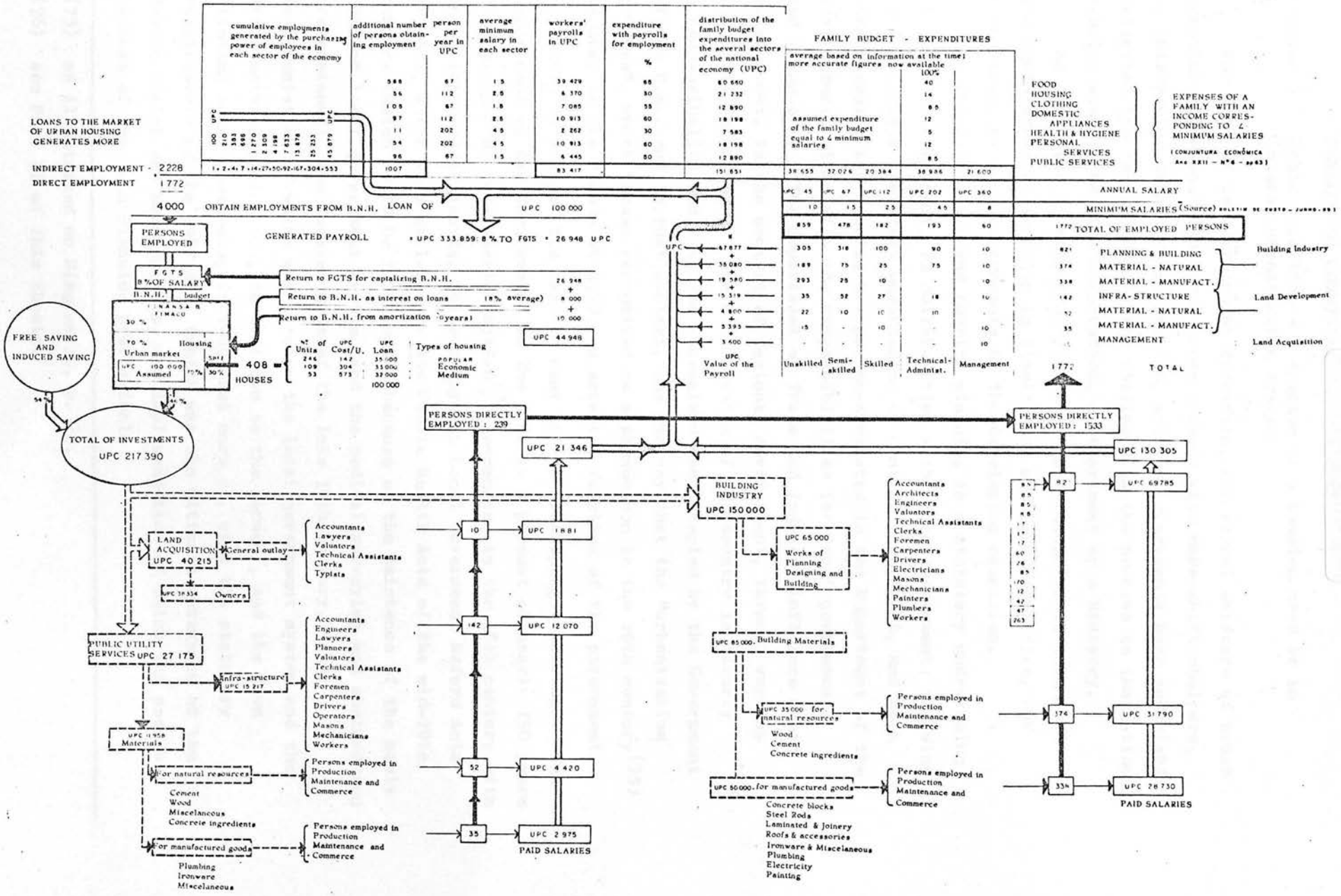

DIAGRAM No. 11

CHAPTER 3. THE REALITY OF THE URBANIZATION PROCESS IN DEVELOPING COUNTRIES

Section 1 Urban squatting - a symptom of a housing need or an inverse urbanization process

For most of the developing countries, the visual evidence of urban squatter colonies, with large areas covered with make-shift shelters, is interpreted as a housing problem, and the governments have invariably delegated the responsibility for dealing with the problem to the national housing agency, be it a Corporation, a Department or a Ministry.

As yet, 'the urbanization problem', as a recognizable technical and administrative function in itself, has not been identified, nor recognized, by many governments in the developing countries.

In the U.K., town and country planning is a statutory undertaking by central government, in collaboration with local government; housing is similarly a statutory undertaking of central government, and both town planning and housing are now co-ordinated in the Department of the Environment, along with the responsibilities for local government and transport. The Department of Trade and Industry influence urban development, in the context of regional development, through various financial incentives. The urban system of the country is clearly a responsibility and function recognized and accepted by the Government of the U.K., and in that context, one can say that the "urbanization process", which became recognized as a phenomenon in the 19th century(75) is now, in the decade of 1970, an accepted function of the government.

This is not yet the case in many of the developing countries. The Department of the Environment in the U.K. is a product of nearly 150 years of evolution of government function,(76) commencing in the 18th century with local improvement boards, followed by the Local Government Reform Acts in 1832, which were followed by the Public Health Acts of the mid-19th century (which could be implemented because of the existence of the newly created local government system, and the medical, surveying and engineering professions); the Housing Acts of the late 19th century, (the implementation of which was through the local government system and the architectural profession, in addition to the former), and the Town Planning Acts, commencing in 1909, but more so, with the statutory requirements of the 1947 Act, (which was the ultimate extension of the Public Health and Housing Acts, the implementation of which was possible because of the Town Planning profession).

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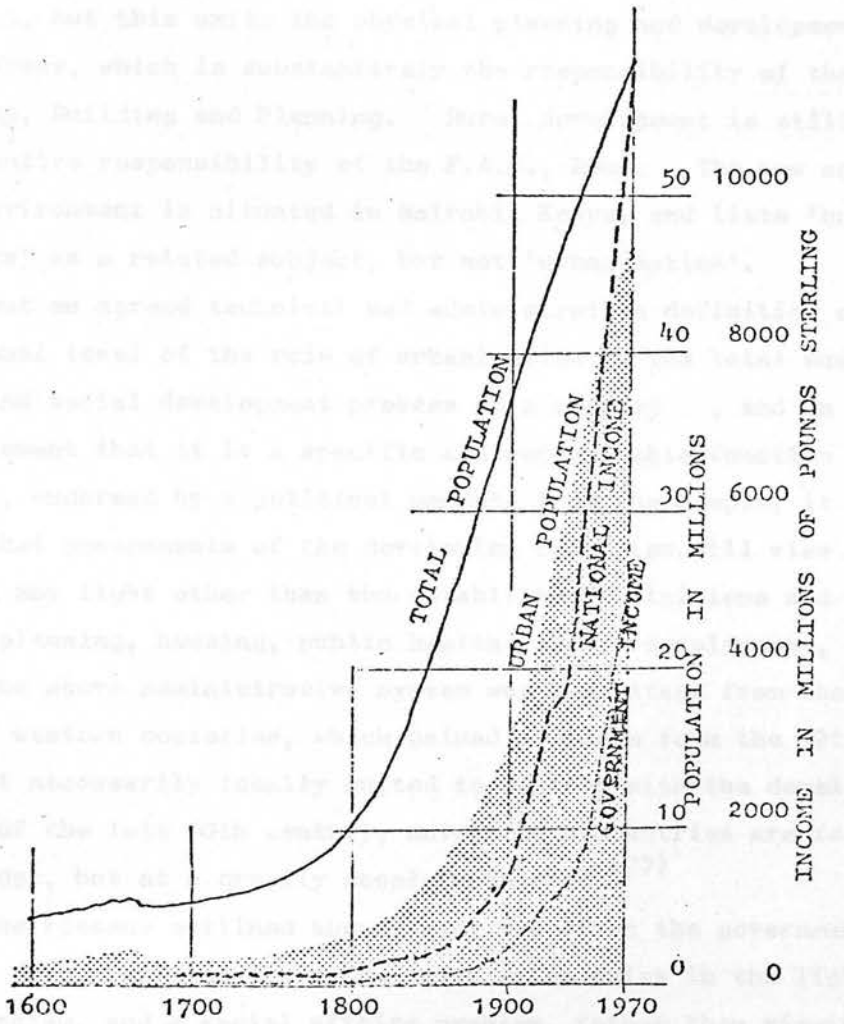
(75) as illustrated on Diagram 12, p. 70.

(76) see Part II of this thesis.

DIAGRAM No. 12

URBAN AND ECONOMIC GROWTH OF BRITAIN DURING THE PERIOD 1600 - 1970

Trends in population change, and the relation between urban population, national income and government income in Britain since 1600 AD. The values of national income and government income have been adjusted to the equivalent of the consumer price index of the pound sterling in 1688, when such price indices first became available.



See also Diagram No. 60 , p. no. 197, for details of the period 1800 - 1971.

This evolutionary process of local government, and the influence of the professions, are not always to be found in the national growth processes of many developing countries. The Acts in the U.K. were the result of a public reaction to a recognizable problem, which was affecting the health and progress of the local society. The public were able to recognize, and define, the administrative responsibility which was required of the public authority, and were able to give a political mandate, and authorize the use of public funds, for Government to undertake such responsibilities.

In the case of 'urbanization', no clearly defined technical or administrative definition has yet been agreed. In the U.N. 'urbanization' is a problem viewed in the context of economic and social affairs, and is substantively the responsibility of the Section for Social Development, but this omits the physical planning and development of urban areas, which is substantively the responsibility of the Centre for Housing, Building and Planning. Rural development is still basically the substantive responsibility of the F.A.O., Rome. The new agency for the Environment is situated in Nairobi, Kenya, and lists 'human settlements' as a related subject, but not 'urbanization'.

Without an agreed technical and administrative definition at international level of the role of urbanization in the total environmental, economic and social development process of a country , and an acknowledgement that it is a specific and recognizable function of government, endorsed by a political mandate from the people, it is unlikely that governments of the developing countries will view the problem in any light other than the established definitions and systems, i.e. town planning, housing, public health, social development, etc. However, the above administrative system was a heritage from the evolutionary process of western societies, which gained momentum from the 19th century, and are not necessarily ideally suited to dealing with the developing countries of the late 20th century, unless such countries are following the western model, but at a greatly accelerated rate.(77)

For the reasons outlined above, only too often the governments of developing countries view the urban squatter colonies in the light of a housing problem, and a social affairs problem, rather than viewing it in the context of a total urbanization problem, policy and programme of the country.

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(77) See a reference to the thesis of Leonard Reissman, Chapter 4, Section 1 of this thesis, p. 109.

In an endeavour to demonstrate the dilemma, and the problems, facing the decision-makers who have to deal with the urban squatter problem in developing countries, and the complexity of the problem in relation to the use of new towns, a case study of one aspect of the urbanization problem in Greater Manila and the Philippines, as it revolves around a great number of families living in depressed urban circumstances, is included in this part of the thesis. It indicates that urban increase in some developing countries is more in the nature of an 'inverse' urbanization process. Though the investigation was carried out over the period 1963-1966[78] it is characteristic of the "urbanization problem" of many developing countries today, and the problem which is taking the attention of international agencies. Similar characteristics are to be found in case studies carried out in Brazil, and these are similar to official reports prepared on the "urbanization problem" in Delhi, Ankara, Istanbul, large towns in East African countries (except perhaps, Tanzania), West African towns and most large towns throughout South America.

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(78) Some of the findings of this study were published in a book by the candidate "Cities in Transformation" U. of Q. Press, 1970, though the contents of the relevant chapter were only a brief summary of a much more comprehensively documented study titled, "Sapang Palay, Urban Squatter Resettlement, A Case Study in the Philippines, prepared for the United Nations Office of Technical Co-operation, 1965. The candidate directed the programme of research and study.

Section 2. Background to the Philippine Case Study

In the Philippines the urban 'squatter' problem appears to be a phenomenon of the 1939-45 post-war years, and coincidentally, appears to have begun with national independence which coincided with the cessation of hostilities in 1945. There had been widespread devastation of all the towns and cities, and much damage throughout the countryside where the majority of the population had been living. With the destruction of the rural economy during the war years, thousands of homeless families migrated to Manila, as it was the main centre for organization and administration, the supply of food, and opportunities for employment. They began to settle there, erecting temporary shelters on any vacant land, or utilizing any existing shelters amongst the ruins, with little regard to land ownership.

The rehabilitation of the country and the task of restoring it to normal life, was in the hands of a newly created civil government; local government was in its infancy. The independence of the Philippines had been negotiated with the United States Government in 1935, and came into effect in 1945. The new government was without any experience, even in peace time, so the task of both establishing a government and undertaking post-war reconstruction, with a disrupted public service, (with most official records destroyed, and a disorganized civil service), compounded the problem beyond that of many of the other developing countries, which have gained independence in later years. Initially, the army played a major role in assisting the government to re-establish public services, and to restore normal life to the city.

The circumstances, in the early post-war days in the Philippines, brought about a recognition by the government that "urban housing" should be accepted as a responsibility and function of central government; steps were taken in 1946 to merge the People's Homesite Corporation with the National Housing Commission, (both of which had been created some years previously, but because of the war, had not been able to operate), to become the People's Homesite and Housing Corporation (PHHC), the national housing instrumentality. The Corporation was allocated some investment capital from the Treasury, as an initial fund, but, for the most part, it was expected to capitalize its operations by the sale of a large donation of land from the Government; the land was expected to accrue in value over the years, and the proceeds from the sale of this land were expected to be sufficient to capitalize the operations of the Corporation.

By the time the corporation was ready for action, many families had squatted on land which was owned by the corporation, and which was ready for sale to new occupants. The Corporation had adopted a procedure for raffling home lots from their estates for the homeless families. Those families who had already 'squatted' on the land were expected to take their chance in the lottery, whereupon, they collectively petitioned the President, who advised the Corporation that the policy in Quezon City should be

> "to give preference to people who already have houses on the different lots. We should not raffle lots on which a house has already been built, unless the owner refuses to meet our conditions ... avoid having to compel people to destroy their houses". ⊗

By following a humane policy to save individual hardship, a precedent had been set whereby the government gave preferential treatment to families who had already squatted on government land.

By 1950, i.e. three years after the President adopted a sympathetic policy to urban squatters, the government recognized that urban squatting and the rapid growth of urban slums were synonymous, and that a positive programme of action was needed to prevent the ultimate breakdown of the high standards of urban life which many had experienced in the Manila of pre-war days.

The President created a Slum Clearance Committee of nine members under the chairmanship of the Administrator of the Social Welfare Administration (SWA), even though provision had been made in the Charter of the People's Homesite and Housing Corporation for: "2.(b) the promotion of the physical, social and economic betterment of the inhabitants of the cities and populous towns of the Philippines by eliminating therefrom slums and dwelling places which are unhygienic or unsanitary and by providing homes at low cost to replace those which may be so eliminated".

Because it was the policy of the government in 1955 to abolish "land tenancy" in the rural areas, (through Republic Act, RA 1400), the Land Tenure Administration also had a role to play in the urban squatter problem. Though the objectives of the Act concerned agrarian land, it was later applied to tenants of large landholdings in urban areas. Under this Act, the government department concerned with administering the Act acquired the land in or on the fringes of the city, (most of which was already slum), and sold to the occupants just that portion of the slum colony on which their particular shelter, (usually a temporary shack), stood; this transaction, though of good intention, only compounded the problem of slum

⊗ Juppenlatz, M; Urban Squatter Resettlement - Sapang Palay, A case study in the Philippines, U.N.O.T.C., 1965, p.9.

clearance, making several hundred small urban landowners, (each one of whom violated many of the local authority building ordinances), instead of one major landowner with whom the local government could have negotiated for the purpose of acquiring the land, and providing a properly planned housing estate, when financial resources became available.

This was noted, and in the following year, by a specific Act, RA1597, Congress authorized the Government to subdivide a reclaimed area of fore-shore land in the city of Manila, on which several thousand families were already squatting, and to organize the relocation of the squatters into an orderly residential layout, and then arrange for the sale of each lot to the occupier.

Thus, not only had the government previously expressed sympathy for the urban squatters, but the Congress had now openly condoned urban squatting and given protective rights to squatters on government land. It should be noted that the acquisition of land for housing under the provisions of the clause in the constitution dealing with 'public domain', could not be interpreted by the legal advisers to include 'public or social housing'.

Five years were to elapse before the Slum Clearance Committee decided that they "should help the squatters from both the private and government lands, and should also work out a programme to help them progress socio-economically".(79) It was becoming obvious to the public, and the government, that a phenomenon of urban squatting was getting out of control. Diagram 13, p 76, shows the extent of slum-squatter colonies throughout the built-up area of the city, and the illustrations, Nos. 4 to 6, pp. 44 to 46 , in Chapter 2, give an indication of the deteriorated level of living in the urban area of Greater Manila.

The President of the Republic, in April 1963, constituted a Presidential Committee "to study and recommend a solution to the squatter problem"; the Committee was also charged "to study and recommend measures to deal with the squatter problem on a national scale".(80)

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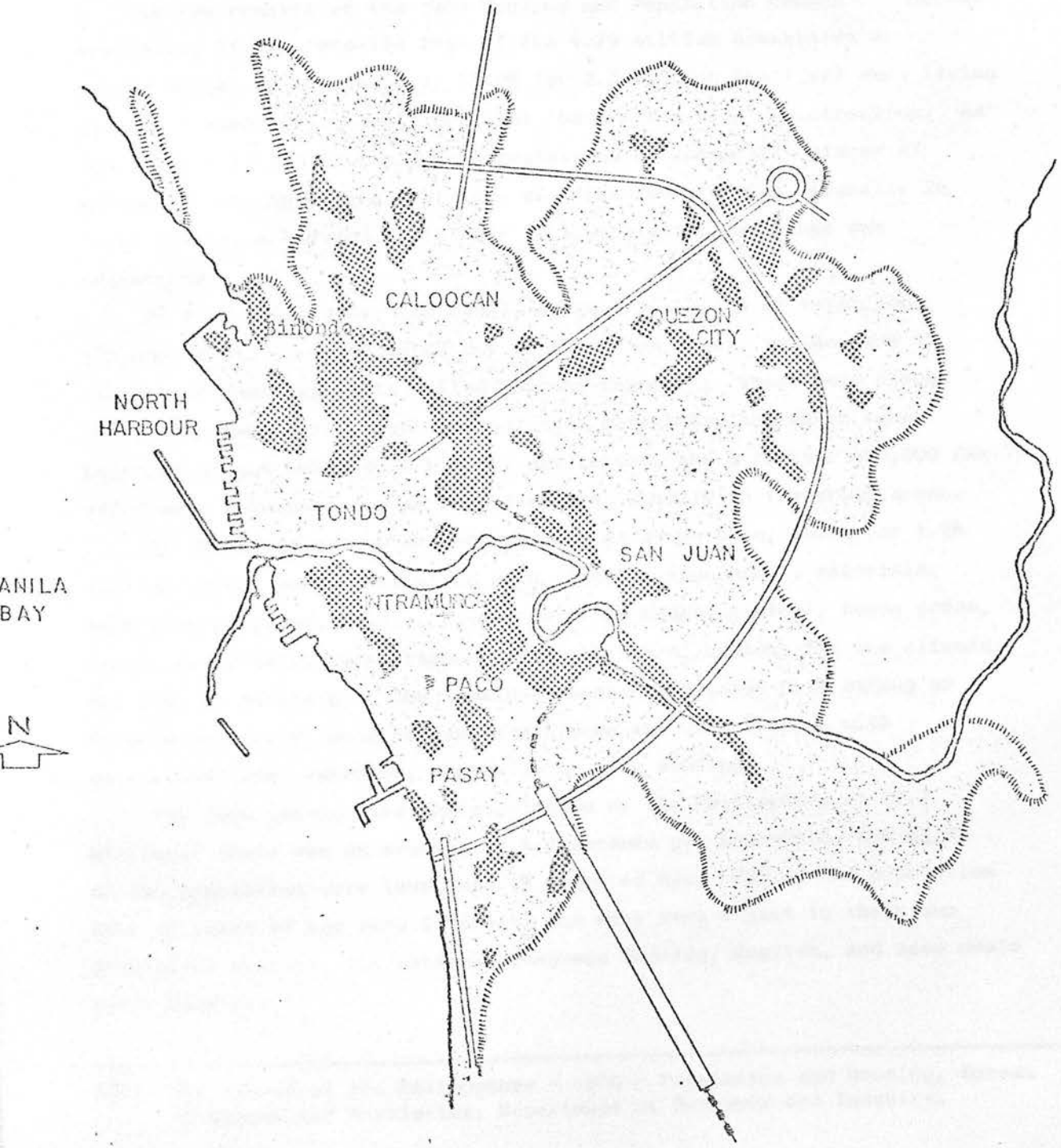
(79) See restricted documents, Juppenlatz, M, "Urban Squatter Resettlement, Sapang Palay, 1965, and Juppenlatz, M, "Housing the People in the Philippines", U.N. Commissioner for Tech. Co-operation, TAO/Phi/14. 1968.

(80) op. cit.

DIAGRAM No. 13

EXTENT OF SLUM - SQUATTER COLONIES
IN THE BUILT - UP AREAS OF GREATER MANILA, 1963.



Source: Preliminary Report on the Housing Needs of Metropolitan Manila, P. H. H. C. - U. N., Housing Research Team, 1963.

Section 3. Urban shelter and the national housing problem

By 1962, the problem of housing the urban population of the Philippines had already been recognized by the Government as reaching "crisis" dimensions; in February of that year, President Macapagal, commenting on the official report from his Presidential Committee on Housing, described the housing needs of the people as "a problem defying one's imagination".

As the results of the 1960 Housing and Population Census(81) became available, it was revealed that of the 4.79 million households or family nuclei of the country, 58.5% (or 2.8 million families) were living in either makeshift shacks, or light 'bamboo and nipa' construction; as some 3.75 million dwellings were registered as acceptable places of accommodation, including dwellings of light construction, (usually in rural areas), a housing deficiency of 1.06 million dwellings was registered.

Of this deficiency, (in 1960), approximately 12% of total, or 570,000 units, was accounted for in the urban areas, in the form of improvised dwelling units called "barong-barongs"; these were shacks built with makeshift, light and salvaged materials, but which were regarded as not being suitable for habitation, and a further 490,000 family units were accounted for as slum dwellers, usually in the urban areas.

Of the dwellings which were counted as acceptable, 46.5% (or 1.24 million units) were constructed with light or non-durable materials, such as nipa palms, bamboo, sawali (platted bamboo strips), cogon grass, reeds, etc., which were standard rural shelters, healthy for the climate and easy to maintain. The remainder were constructed with strong or durable materials, such as concrete blocks and wood framing with galvanized iron, asbestos, aluminium or tile roofing.

The 1960 Census gave the population of the Philippines at 27.7 million; there was an average of 5.7 persons per household, and 45.7% of the population were less than 15 years of age; 72% of the population over 10 years of age were literate, and many were fluent in their own provincial dialect, the national language Tagalog, English, and some could speak Spanish.

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(81) See Census of the Philippines - 1960 - Population and Housing, Bureau of Census and Statistics, Department of Commerce and Industry.

Of the occupied dwelling units referred to in the 1960 Census, 20% were connected with piped water, 16.5% were provided with electricity, and 16.8% were equipped with flush toilets, or an 'antipolio' (covered pit) system. The 1957 sample Household Surveys showed that only 42% of the household/ers owned both their house and lot on which the house stood, whilst the remainder owned only the house, but not the lot.

Estimates of the total housing need, published by the National Economic Council in 1964,(82) indicated that on the trends prevailing at the time, a total number of 9.42 million dwellings for separate households would be required by 1980 to house the estimated population of that year. Assuming that the present urban rural migratory trends continued, the construction rate to overtake the back-log and make good the expanding needs would be approximately 99,000 urban dwellings and 372,340 rural dwellings per annum. On the basis of a cost of P6000(83) per urban dwellings, and P1000 per rural dwelling, some P594 million would need to be invested in urban dwellings, and P372 million invested in the rural dwellings, annually. This total figure of P966 million invested annually in Gross Domestic Investment in Construction, but specifically in dwelling construction over the next 20 years, would approximate to 5.6% of the 1965 gross national product, which was a significant increase in the then current rate of 1% to 1.5%.

During 1965, a more detailed study of the Housing needs was conducted by the Joint Technical Advisory Staff on Housing, Office of the Presidential Assistant on Housing, and this study revealed that on the present estimated rate of dilapidation, annual loss through disaster, current rate of home construction (i.e. estimated at 2 dwellings per 1000 population per annum), and the revised estimates on population in 1980, the country could expect a housing deficiency of 6.72 million dwellings at that time.(84)

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(82) J.S. de Vera - The Philippine Housing Need, the Philippine Economy Bulletin, Issue on Social Development, National Economic Council, Vol.III, V.2, 1964, p.13. See Table I

(83) The Philippine Peso exchange rate in 1963 was P9.60 = £1 Sterling.

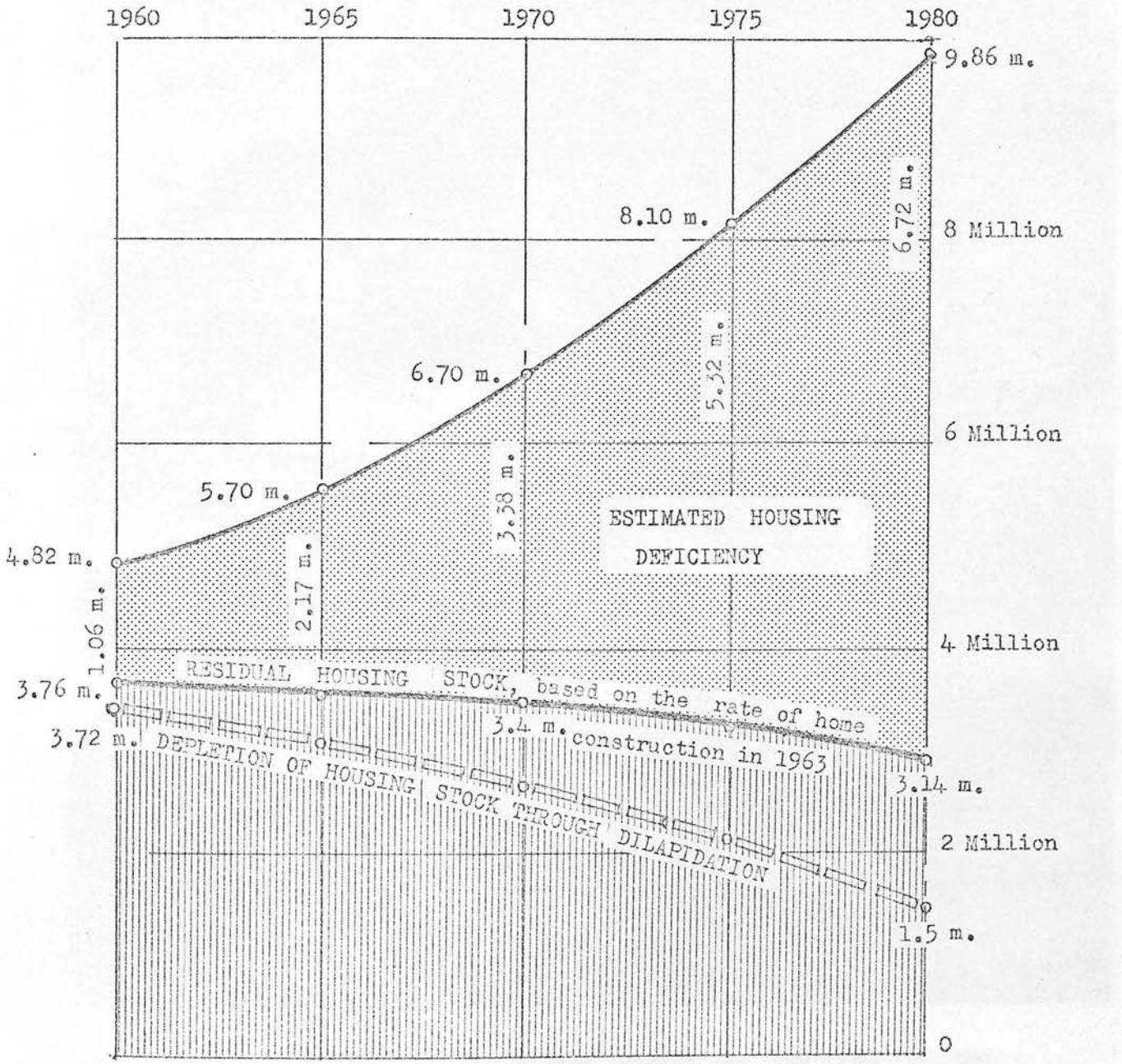
(84) See diagram 14, p.79 .

ESTIMATES OF THE PHILIPPINE HOUSING NEED 1960 - 1980

(made in 1963 by the Joint Technical Advisory Staff of President)

Estimates on Population and composition of Households, compiled by the Demographic Committee, Bureau of Census.

Annual rate of construction of dwellings estimated at 2 per 1000 population.



HOUSING CONDITIONS FOR AN INCREASING NUMBER OF FAMILIES IN THE LARGER TOWNS THROUGHOUT THE PHILIPPINES; INTRAMUROS, MANILA, 1963.

The ratio of investment in dwelling construction to gross national product for the two years 1960 and 1965 were as follows:

TABLE 9

INVESTMENT IN DWELLING CONSTRUCTION[85]

Fiscal Year	1960 (P millions)	1965 (P millions)
Gross National Product	P 12,126	P 20,275
Gross Domestic Investment in Construction	505	939
As a ratio of GNP	5.4%	4.65%
GDIC in Dwelling Construction[86]	126	319
As a ratio of GDIC	25.0%	34.0%
As a ratio to GNP	1.0%	1.5%

Much of the investment in housing, however, was being directed to large expensive dwellings, the costs of which were in excess of P 150,000 each. Both the investment and the number of dwellings constructed annually were a long way from the requirement of the country, which was then estimated at an annual construction rate of 12 new dwellings per 1000 population.

The gross domestic investment in dwelling construction by the private sector in 1962 had been P 174 million, and this increased to P 319 million by 1965; the proportion made available by loans from Government sources increased from P 47 million (27%) in 1962 to P 206 million (65%) in 1965. Direct investment by the government (PHHC, GSIS, DPW, MPC, UP, SWA), in home construction, increased from P 4 million in 1962 to P 21 million in 1965, as shown in Table 10. The flow chart of the home financing system in the Philippines at the time is shown on Diagram 16, p.85.

(85) The Statistical Reporter, Office of Statistical Co-ordination and Standards, National Economic Council, (Quarterly Journal).

(86) GDIC in Dwelling Construction for 1965 was exclusive of the P 21 million released from the national budget for a tenement project, and other such buildings.

TABLE 10 INVESTMENT IN HOUSING 1962-1965

	1962		1963		1964		1965	
	Pmillion	%	Pmillion	%	Pmillion	%	Pmillion	%
1. GOV'T. CONSTRUCTION	4	2.2	4	1.6	2	0.7	21	6.0
2. PRIVATE CONSTRUCTION	174	97.8	209	98.4	274	99.3	319	94.0
TOTAL	178		213		276		340	

For the most part, the capital which was invested in the dwelling construction industry in most developing countries, is governed by the repayment capacity of the people themselves. The Inter-agency Committee on Demography compiled estimates of the gross national product per capita over the years 1960-1964 (inclusive), and this is shown in Table 11.

TABLE 11 . INCOME PER CAPITA

Fiscal Year	1964	1963	1962	1961	1960
GNP (PMillion)	P18,701	P17,145	P14,972	P13,432	P12,126
Population Midyear (1000)	31,270	30,241	29,257	28,313	27,410
GNP per capita	598	560	511	474	442

The results of the 1961 Sample Survey of Households and Incomes, by the Office of Surveys, Philippine Statistical Survey of Households, indicated the following:-

TABLE 12

INCOME PER HOUSEHOLD - URBAN VERSUS RURAL

(Percentage of households)

	% Metropolitan Manila	% Other urban areas	% Rural	% Total Survey
Under P1,000	3.5	31.3	57.2	46.2
From P1,000 to P2,500	40.2	41.3	34.7	36.5
From P2,500 to P5,000	27.2	18.4	6.5	11.5
From P5,000 to P10,000	20.2	6.8	1.4	4.4
Above P10,000	8.9	2.2	0.2	1.4
	100.0%	100.0%	100.0%	100.0%

The distribution of wealth in 1961, on the basis that the minimum income for a family should be P2,500, shows that 43.7% of the families of Metropolitan Manila, and, 72.6% of the families in other urban centres, (who together comprize 30% of the total population), and 91.9% of the families in rural areas, were living on or below the line of basic subsistence level.

The amortization capacity was less than P20 (or approximately £2) per month for more than 82.7% of the families in the Philippines at that time, (i.e., assuming 10% of family income should be paid for home amortization).

The average cost in 1963 of a 1-storey, 2-bedroom, painted house of about 42 sq.m. with concrete footings, aluminium roofing, lumber framework, and timber flooring, walls, millwork, and jalousies, (moveable timber louvres), provided with a kitchen, sink, a shower and a flush toilet, was approximately P4,500 to P5,000 (equivalent to £470 to £520). The financial institutions of the Philippines at the time insisted on an amortization period of 15 years at 6% per annum; this would require a monthly instalment of P25.31 for the house, which would be exclusive of the cost of the land, which, at the time, (and though a great variable), was usually more expensive than the house. Because the low income group had so little opportunity to save or to acquire a home lot, a large proportion of the low income families were forced into the slum-squatter colonies if they wanted to be near the large towns or cities.

The urgent need for the Government to make long term low interest money available for home loans to the low income group of the country (82.7% of the population of the country) was apparent, but economic policy at the time was preoccupied with formating capital at the fastest rate possible,⊗ and using savings for essential public works; this meant that there were no savings available which could be used except accumulated and investable pension, social security and insurance funds, but these institutions were equally required by law to guarantee a prescribed interest accumulation on the funds, which they held in trust.

An analysis of the flow chart of Financing of Home Construction in the Philippines, as shown on diagram 16, p. 85, shows that an apparently adequate inter-related system for providing for home loans and financing existed in the country, but as each of these agencies, as trustees for such funds, were obliged to obtain the best possible return, and accumulation of capital, these funds could not be made available for the low income housing problem of the country. Theoretically, there were adequate sources of funds for investment into the dwelling construction industry, but in reality, 80% of the population were excluded from participating in the home loan system.

There were virtually no funds available from the private source of investment for low income housing, except from charitable gifts. There was a big demand for capital from the industrial and commercial sector for short term high interest money, ~~was highly~~ and repayment on a short term basis was assured, for such loans. The Building and Loan Associations and Housing Co-operative Societies were inoperative through lack of financial resources and/or lack of organization. The Social Security System and the Government Service Insurance System were providing the majority of the home loans for the country, and little of this was going towards satisfying the housing needs of the low income group.

The Home Finance Commission was prepared, subject to availability of financial reserves, (which it did not have), to absorb the loans and provide the mortgage insurance guarantee, and extend the repayment period to 25 years, (at an additional 1% interest rate for service charge), for GSIS loans, which were available on a repayment basis of 15 years, with interest rate of 6% per annum.

⊗ Policy statement given to the candidate by the officials of the National Economic Council at the time.

FLOW CHART OF THE HOME FINCANCING SYSTEM OF THE PHILIPPINES IN 1963

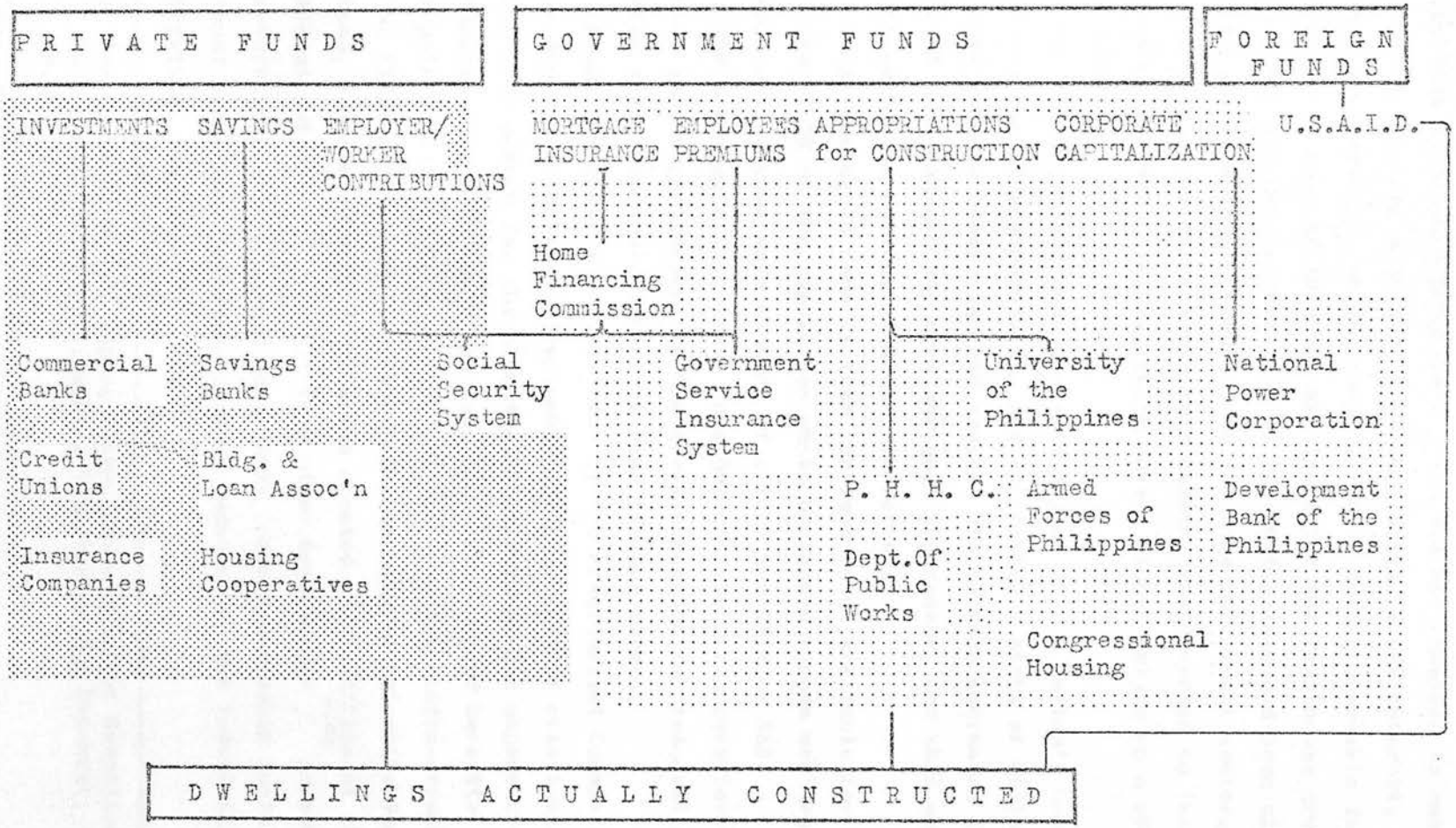


DIAGRAM No. 16.

In 1957, the Social Security System was established to operate a retirement and personal benefit programme for non-governmental employees, and the charter was amended in 1960 to permit the SSS to engage directly in the home investment programme. The SSS had resolved to make home loans available for a 25 year repayment period at 6% interest, subject to fund availability, which could be 40% of total investable funds, but little or none of this was available for the low income groups. Until 1963, the Development Bank of the Philippines had been allocating some of its investment resources to the home investment sector, but from that time, its available investment capital was diverted to industrial and commercial undertakings, which gave a higher return on a shorter term loan.

The mortgage insurance guaranty aspect of the nation's housing programme was at a standstill , and approached a state of collapse, because the Home Finance Commission had reached its maximum guarantee fund against which it could absorb any more mortgage insurances, and this was regulated by the national monetary resources.

Those who could benefit from the loan funds available for housing were the 17.3% of the population whose household income was over P2500 per annum, most of whom were members of either the GSIS or SSS.

The great majority, (more than 80%) of the urban squatters in Greater Manila, and in particular, in the areas scheduled for relocation, were outside those who could enter the home finance market.

Among the recommendations made by the Presidential Committee on the Urban Squatter Problem, in September 1963,was that of creating a special agency with powers for the planning, construction and management of new communities (or poor man's new towns),(87) which would have its own land, a budgetary allocation to provide all the essential infra-structure and social fixed assets, and to provide the incentives for suitable industry. Instead, a Master Planning Group was created in the Office of the President, which was authorized to / request from other departments / such personnel and collaboration, as was deemed necessary; such departments included the national agency for promoting cottage industries, the Industrial Development Corporation, and such like.

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(87) See Juppenlatz, M., Sapang Palay, Urban Squatter Resettlement, A Case Study in the Philippines, U.N. Restricted Document, 1965, pp.88-90.

The Memorandum to Government from the Master Planning Group proposed a careful phasing of the relocation of urban squatters to properly prepared new communities, as discussed in Part IV, Chapter 10, section 3, of this thesis. Some of the differences between this concept and that of the British New Towns was that the transfer of families from the "depressed urban circumstances" of the large cities was to be by relocation first, and this was to be followed by incentives to industrialists to establish enterprizes in the new communities as soon as possible; a single financial system was not established, but rather, the programme depended on financial support from different departments, if their budgetary allocations permitted. In the British new town system, there is one financial system co-ordinated with the physical construction, and an effort made to relate housing and industry in a simultaneous developmental process of the new town.

Section 4. Quantifying the trends of urban squatting

In March 1963, a survey of squatters in Greater Manila,(88) revealed a total of 282,730 persons, a figure which, when plotted in relation to the actual head count by the Social Welfare Administration in 1946, of 23,000 persons, (1.3% of population of metropolitan Manila), in 1956 of 98,000 (4.7%) persons, and in 1963 of 282,730 persons (11% of the population of metropolitan Manila), suggested that there had been a consistently increasing trend of immigration of squatter families to Greater Manila since 1946, (see Diagram 17, p. 89). Table 13 gives the number of persons affected in each district of the city. These figures indicated that there had been a constant rate of increase of urban squatters since 1946 at the rate of approximately 15 per cent per annum; if this were to continue unabated over the next ten years, it could be expected that in 1973 the squatter population would have increased to approximately 1,300,000, i.e. 30 per cent of the then estimated population of Greater Manila, compared with approximately 11% in 1963.

It is significant that a survey carried out in March 1968, by a special Presidential Committee on Squatter Problems, revealed that there were then 127,852 families (767,112 persons or 22.5% of population of Metropolitan Manila) living as squatters, and 55,907 families (335,442 persons) living in slum conditions, in metropolitan Manila, i.e. a total of 1,102,554 persons (or 32% of total metropolitan Manila population) living in slum-squatter conditions. Using the logarithmic graph projection (as shown in Diagram 17), based on the counts of squatters in 1946, 1956 and 1963, it was estimated in 1963 that the number of persons living in squatter colonies by 1968, if no concerted programme of action was implemented, was likely to be approximately 600,000. The actual number of 767,112 squatters suggested an acceleration of the rate of squatter-migration into metropolitan Manila by that time.

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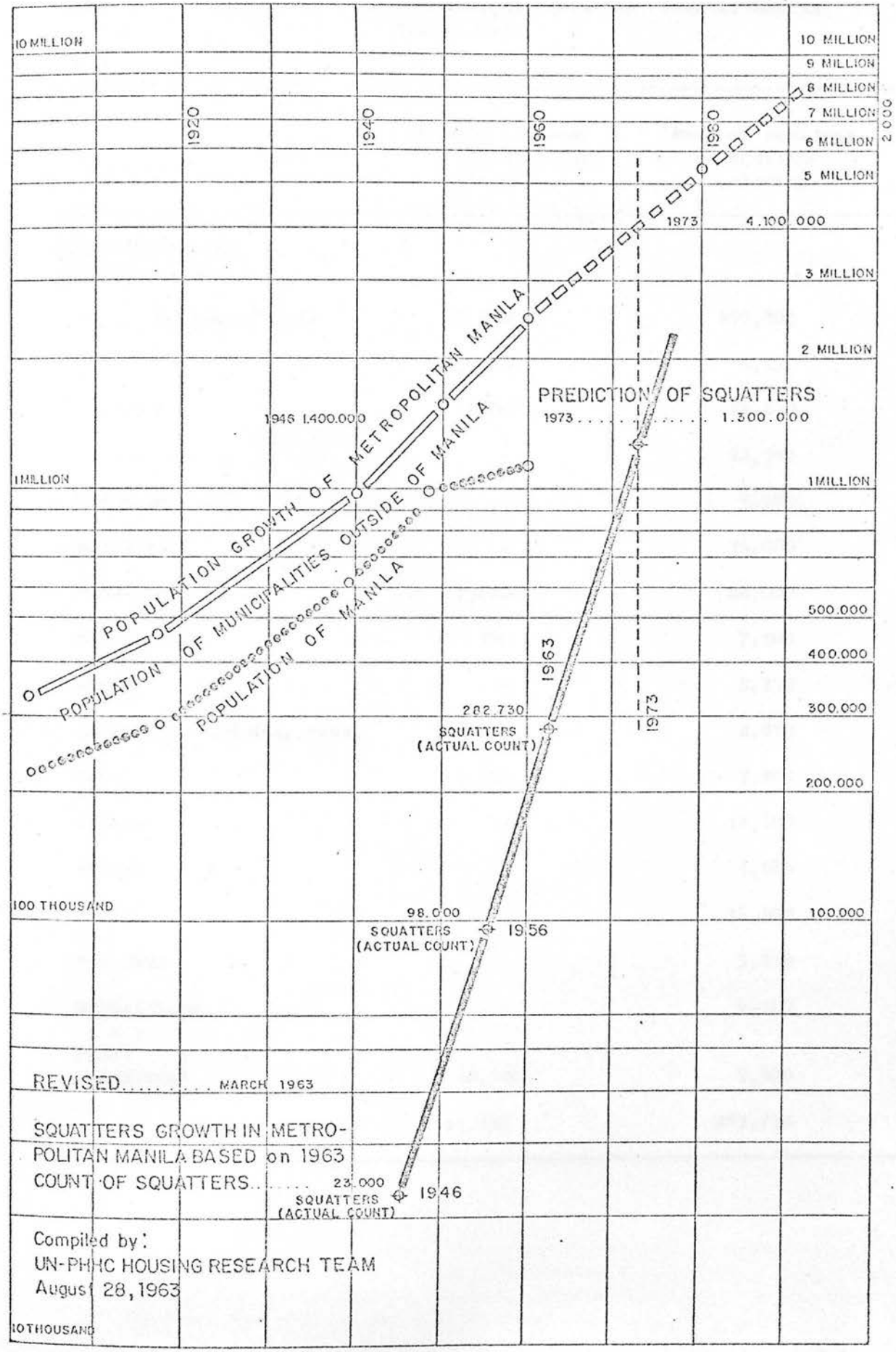
(88) The survey was carried out by a Housing Research Team, Committee on Housing, Office of the President. The team identified from air-photo mosaics covering the whole of Greater Manila (one taken in March 1962, and the other in March 1963), all the slum and squatter colonies and these were plotted on large scale maps of the city, which showed the location of every lot. This information provided the basis for the social interviewers in the field to carry out a systematic 10 per cent sample survey of every squatter colony, and also to identify and collect information on other family characteristics and circumstances pertaining to the squatters. This was undertaken by personnel of the Social Welfare Administration, from the University Department, many volunteers from high schools, (who were given short intensive courses,) during the month of March 1963. Table 13, p. 90 gives the number of people in each of the slum-squatter colonies in Manila, which were identified. The details were published in a report, Metropolitan Manila: Preliminary Report on Housing Needs People's Homesite and Housing Corporation, United Nations Survey Team (1963).

DIAGRAM No. 17



INCREASE OF URBAN SQUATTERS IN METROPOLITAN MANILA

TABLE 13. Estimate of slum-dwellers and squatters, Greater Manila, March 1963

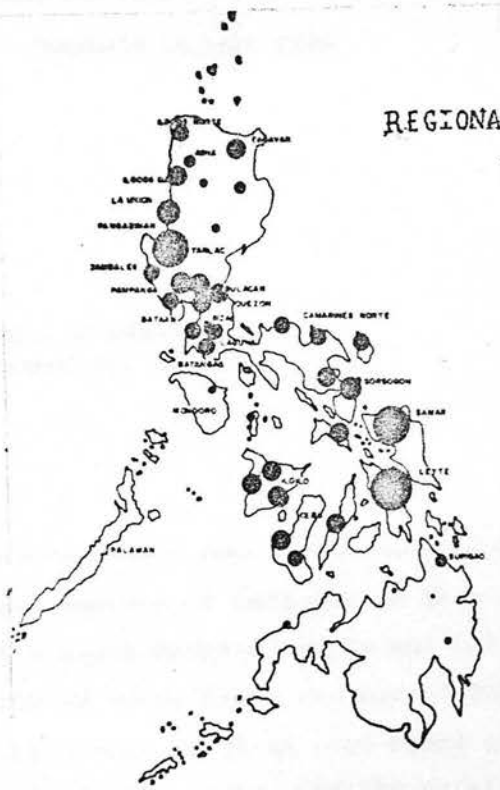
	Persons resident in non-squatter slum areas	Persons resident in squatter colonies
DISTRICTS OF THE CITY OF MANILA		
Tondo and San Nicolas	50,000	103,800
Binondo	560	2,230
Caloocan	4,400	14,400
Intramuros	-	22,100
Pandacan	-	9,500
Santa Ana	-	34,000
Sampaloc	7,000	26,000
Santa Cruz	17,340	7,100
Quiapo	-	2,230
San Miguel and Sta. Mesa	200	2,820
Paco	1,540	7,900
Malate	-	18,100
ERMITA	-	1,280
CUBAO	-	14,200
SAN JUAN	-	5,610
MANDALUYONG	-	4,160
PASAY) PARANAQUE)	10,700	7,300
TOTALS	91,740	282,730

An analysis of the origin of the squatter families, taken from the questionaires, indicated that by far the greatest number of in-migrants into Greater Manila had come from the perennially typhoon-swept provinces of Samar and Leyte, where calamity and famine are an annual occurrence. The second largest group came from the flood-tormented tenant-farm areas of Pangasinan, and the rest, in equal proportions, from the Camarines and Visayas, which are also typhoon-swept zones. Only a few had originated from Mindanao or Cagayan, in Northern Luzon, which are, in fact, major migrant-recipient regions. See Diagram No. 18 for a graphical indication of the provincial origin of the families who have migrated into Greater Manila.

The study of the origin of the squatters threw into perspective living conditions in the typhoon belt; the 1960 census revealed that 90,910 of the families resident in the fourteen provinces constituting the typhoon belt were living in barong-barongs (makeshift temporary shelters), and these comprised 11 per cent of the shelters in the built-up areas.(89)

DIAGRAM No. 18

REGIONAL ORIGIN OF THE SQUATTERS TO METROPOLITAN MANILA



(89) The typhoon belt includes the provinces of Aklan, Bohol, Capiz, Cebu, Iloilo, Leyte, Marinduque, Masbate, Negros Occidental, Occidental Mindoro, Romblon, Samar, and Sorsogon.

Section 5. Levels of Living of the Squatters

An important problem on which the research team needed some quantitative measurement was to determine the acceptable levels of living for the families, and to see these levels in relation to an acceptance line of minimum subsistence for families throughout the country. In 1948, a selected group of researchers, from the University of the Philippines, studied this problem with a U.N. adviser, Miss Irene Murphy, and found that for low-income families, practically all consumer commodities and costs of essential family needs were invariably related to the current commercial price of rice, and that all essential factors of consideration for a family budget were measured by the families themselves in terms of the value of a ganta (i.e. approximately 2 kilogrammes) of rice. The breakdown of a low-income family budget for a family of two adults and four children was identified, as set out in Table 14.

Table 14 Low-income family budget, 1948

Monthly budget item	Value in rice gantas
Rice	22
Other Foods	53
Shelter	16
Clothing	6
Utilities	12
Family advancement, transport, education, recreation, etc.	22
Savings	14
Total	145 gantas (or equivalent units) per month

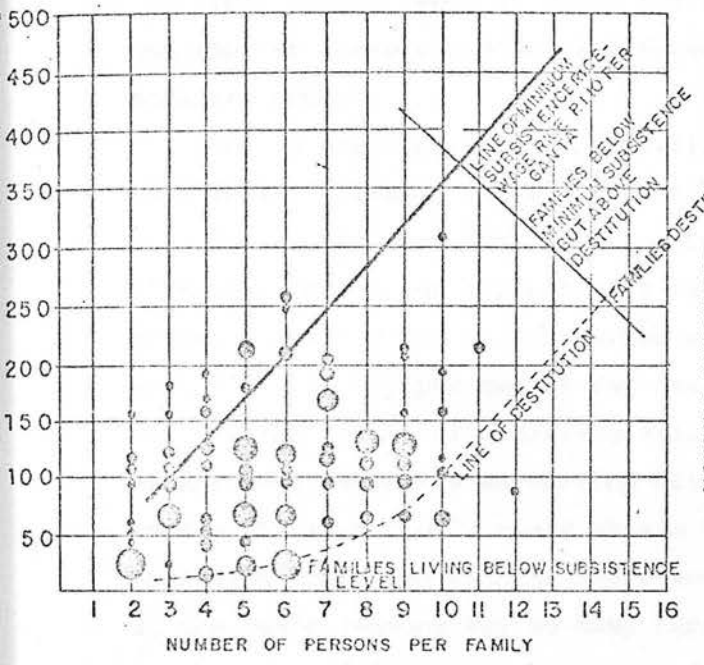
Assuming some measure of validity in this formula, and adjusting for the needs of (a) a newly married couple and (b) a family of 12 persons, (most of whom were reckoned to be below the age of 20), a graph line representing basic wage or subsistence level at rice costs of P1.10 per ganta[90] was plotted against the income scale, and the varying number of persons in a family, for each of the squatter colonies. (See Diagram 19, p. 93).

(90) Increased in 1966 to P1.80 a ganta for subsidized rice, and P2.20 for commercial rice.

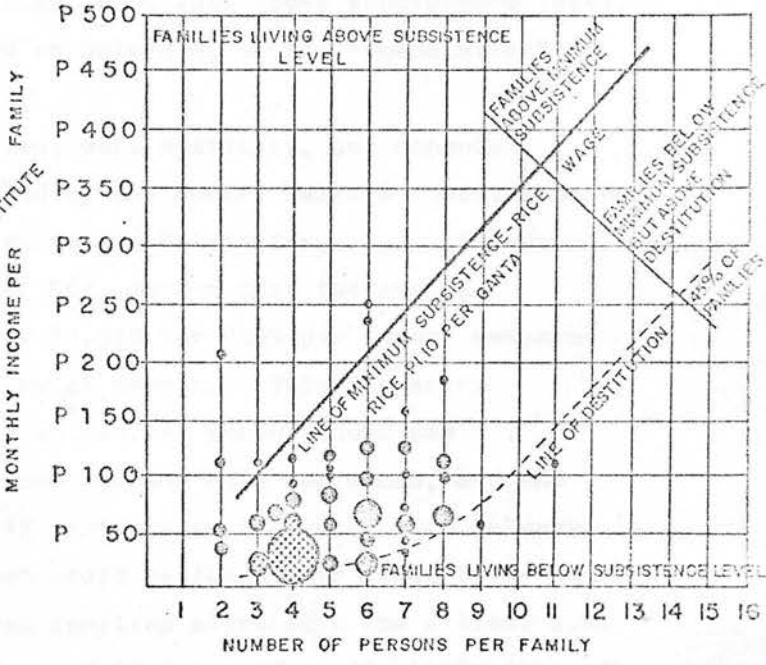
DIAGRAM No. 19

SAMPLE OF SURVEY OF FAMILY SIZE AND INCOME IN RELATION TO THE LINE OF MINIMUM SUBSISTENCE IN FOUR SQUATTERS COLONIES OF METROPOLITAN MANILA IN 1963.

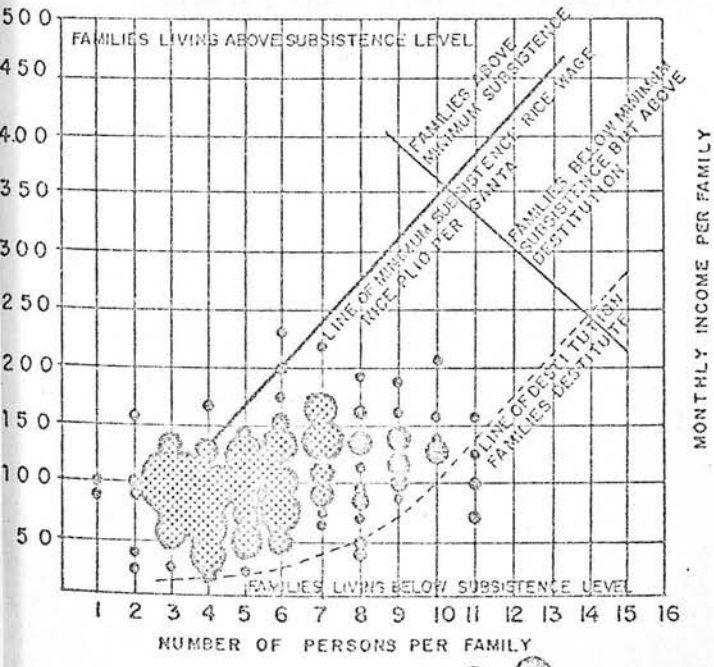
TONDO



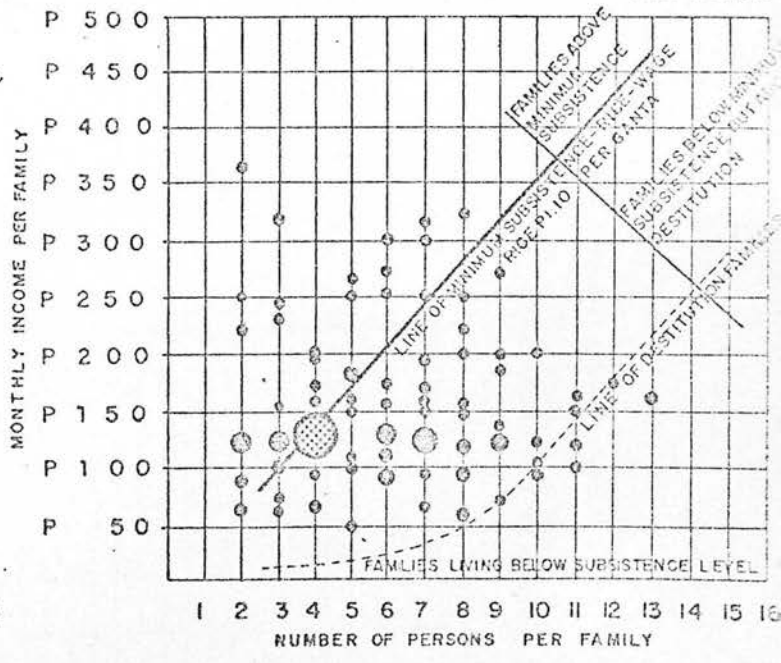
INTRAMUROS



CUBAO



STA. MESA



APPROX. GRAPHIC SCALE: 2 4 6 8 10

The survey results, as shown in Table 15, p. 95, indicated that the squatter colonies of Manila could be classified as follows:

(a) 81 per cent, or 40,905 families, had an income which provided them with a level of living below the minimum line of subsistence, but above destitution.

(b) 15 per cent, or 7,694 families, were well above subsistence level, and many of those could be considered as belonging to the "speculative" squatter groups.

(c) 4 per cent, or 1,828 families, were destitute, and dependent upon Social Welfare, (this was verified by the Social Welfare Administration).

The report from the Bureau of Census and Statistics, "Survey of Family Income and Expenditures for 1961," showed that the average income for the urban casual worker was P1,312 (or P109 per month) compared with P353 (or P29 per month) for the rural worker. This disparity between the income of a slum-squatter family in Manila, whose income was established generally as varying between P90 and P180 per month, and the income the same family could obtain if resident in the rural area (always presuming that some kind of employment could be found), is taken to be one of the basic reasons why so many rural families migrated to the cities, i.e. in the hope of improving their standard of living, and particularly that of their children. It is the 'poverty' of the non-urban areas which motivated the families to migrate to the large towns and cities, as much as the hope of improving their family circumstances.

TABLE No. 15

ANALYSIS OF FAMILY SIZES, INCOMES, & RENT PAYING CAPACITY OF SQUATTERS THROUGHOUT THE VARIOUS DISTRICTS OF METROPOLITAN MANILA

				Squatter Families Living Above Subsistence Level						Squatter Families Between Subsistence and Destitution							Destitute Squatter Families			
	No. of Squatter Families	Average No. pers./household	Total No. of squatter persons	% of families above subsistence	No. of families above subsistence	Average No. of pers./household	Average monthly p income	Average rent paying capacity	Total monthly income available from squatters	% families minimum subs.to destitution	Number of families	Average No. of pers./household	Average income p per household	Rent paying capacity % of income	Average monthly p rental payable	Total monthly return	% of destitute squatter families	No. of destitute squatter families	Average No. of pers./household	No. of persons involved
Tondo	19,790	5.41	103,800	13.5	2670	4	180	18		84	16,625	5.5	90	6	5.4	87,200	2.5	495	10	4,950
Binondo	412		2,230		55				51,000		346							11		110
Caloocan	2,660		4,400		360						2,240							60		200
Intramuros	4,305	5.14	22,100	5.5	230	3.5	180	18		90	3,975	5	60	5	3	11,620	4.5	194	10	1,940
Pandacan	1,540		9,500	22.5	346	3	140	14	22,200	75	1,156	7	120	5	6	30,200	2.5	38	13	494
Sta. Ana	5,540		34,000		1242						4,160							138		1,790
Sampaloc	4,250	6.11	26,000	20	850	3	160	16		73	3,100	6.5	140	6	8.4		7	300	11	3,300
Sta. Cruz	1,160		7,100		231				19,500		848					37,000		81		891
Quiapo	365		2,230		74						266							25		275
San Miguel	280		1,720		55						205							20		220
Paco	1,400	5.6	7,900	22	304	3	160	16		74	1,040	6	110	6	6.6	23,800	4	56	12.5	700
Malate	3,210		18,000		710				17,200		2,380							120		1,500
Ermita	246		1,380		54						182							10		125
Cubao	2,240	5.8	14,200	9.5	230	2.5	125	12.5	4,250	86	2,100	6	110	6	6.6	20,040	4.5	110	10	1,100
Sta Mesa	189		1,100		18						163							8		80
San Juan	965		5,610		92						830							43		430
Pasay City	875	6.8	6,000	10	87	3	120	12		83	725	7	125	5	6.25	8.600	7	63	11	693
Parañaque	190		1,300		19				2,000		158							13		143
Mandaluyong	610		4,160		61						506							43		472
TOTALS	50,427		282,730	15 c.	7694				P116,150	81 c.	40,905					P218,460	4 c.	1828		19,813

Footnotes:

1. Information from Manila Health Department, S.W.A.-PHHC Sample Survey and P.A.F. Air Photo Mosaic of Met. Manila.
2. From Graphical Analysis of SWA-PHHC, Sample Surveys - See Sheets 4 & 5 of Preliminary Report on Housing Needs, Metropolitan Manila, PHHC, 1963.
3. District in blocked title indicates the City District in which the SWA-PHHC Sample House-to-House Survey was carried out.

Section 6. The living conditions of the squatters

The conditions of living, in which the squatter families in Greater Manila existed, were far below any reasonable standards of urban environmental sanitation, and quite inconsistent with urban living standards generally. The density of the squatter shacks varied, but averaged some 200-400 persons per hectare. The structures were usually a single room, and in the worst squatter colonies, as shown on illustrations 4 to 6 of this thesis, hundreds were spaced within a few inches of each other, with no provision for sanitation. On average, there was one public water faucet serving several hundred families. Obtaining the water supply for the family usually involved waiting in long queues, especially in the dry season, when water was available only for a few hours at night.

In such conditions, many of these squatter colonies, because of their lack of hygiene, the bad drainage of their sites, the uncollected refuse, etc., were responsible for the regular (usually annual) outbreaks of cholera in many of the towns and cities. Records from the Medical Intelligence Digest show a high incidence of tuberculosis and respiratory and gastro-intestinal sicknesses amongst squatter families; these sicknesses were carried to the remainder of the city, imposing an additional burden upon the citizens. This problem required financial allocations from the city budget, and the use of other resources, to support the necessary health and medical services. The services were unable to do more than contain the sickness rates and control the 'effects'; at that time, it was not possible to eradicate the cause, which remained to infect the remainder of the city.

Some of the squatter colonies were known by the authorities to be the home of organized criminal gangs. However, the extent to which additional crime originated in the city because of the squatter colonies has not been determined; the great majority of the families had migrated to the city for self-improvement, not crime. Nevertheless, the authorities asserted that an additional budgetary outlay of P11 million from the city reasury was necessary for extra police services in 1963 to combat the mounting crime wave, which was attributed to the presence of the squatters, while P500,000 was budgeted annually for the care of the juvenile delinquents in the citys' jails and institutions.

Accusations were also made in the local press by citizen groups that much of the damage to buildings from fire, amounting to some P200 million a year, could be attributed to the crime originating in the squatter colonies. The police, subsequently, ascribed this to arson by syndicates which were in no way associated with the squatter colonies, but linked more directly to the cancellation of debts in the Chinese community during the Chinese new year celebrations.

The areas of land selected by the squatters of Greater Manila for their shacks include government foreshore land, properties belonging to local authorities (particularly those which have remained undeveloped), government national parks where there is no evidence of government activity (such as the National Park in Quezon City), swampy lands which were obviously waste land, and increasingly, in recent years, some private undeveloped lots. There were also some criminal elements who employed armed "goons" to squat on private land with the intention of embarrassing the landowners, in the hope of ultimately being able to obtain actual possession of the land. Such aspects of the urbanization problem do not concern this thesis, as there are, in such cases, judicial procedures to which the owners of land can resort for justice. The concern of this thesis is more in the sub-human conditions under which hundreds of thousands of human beings are living in urban areas at present, and the fact that ~~the~~ their numbers [illegible] are increasing at an alarmingly fast rate every year.

Section 7. The Urban Squatter problem in other towns in the Philippines

A question which had to be answered was whether the unhygienic squalor in which these squatter families were living in Manila was the result of the peculiar conditions under which they found themselves upon arrival in Manila, or whether, in fact, they had brought these living conditions with them from their provinces. If the latter, did they aspire to attain a higher urbanized culture and level of living, or were they intent upon retaining their rural habits in their urban squatter colonies as part of their family tradition?

The living standards in the squatter colonies of provincial towns and in the rural areas were, almost without exception, low, all with the same characteristics, whether in Luzon, in the north, (e.g. Baguio, a town for Government officials to retreat to in the hot summer, and a tourist town), the "typhoon belt" area in the Visayas, or the towns in Mindanao in the south. A summarized table of the information for 10 provincial towns compared with the living conditions of the squatters in Greater Manila is shown on Table 16, p. 99 .

The research team drew attention to this problem, and concluded that if the rural-urban migration could not be checked at its source, then it was becoming a necessity to provide some training for the squatters upon their arrival in the urban areas, (and some orientation towards urban living), in order to equip them mentally, technically, and socially for assimilation into the normal social and economic urbanization process. Illustration 20 gives a visual impression of the urban squatter living conditions in other towns of the Philippines.

TABLE No. 16

Characteristics of Conditions of Living for Squatter Families in Selected Towns & Cities of the Philippines

1963.

	Population Built-up areas	No. of Squatters	Squatters as % of town Pop	Predominant age		Educational attainment of head of household			Swampy sites or off-shore	Sanitation		Water from spring or well or communal	Prevalence of Sickness		
				Below 18	Above 18	no grade	Primary elementary	High College		W.C. or open pit	NIL		T.B.	Gastro intestinal	Respiratory Bronchial
GT. MANILA	2,700,000	282,730	10.5	Below 18		50%	30%	20%	60%	5%	95%	80%	high	high	high
						80%	15%								
DAVAO	250,000	45,060	18.5	80%	20%	30%	50%	20%	70%	40%	60%	98%	12%	63%	25%
ILIGAN	74,000	5,600	7.5	60%	40%	not available			40%	5%	95%	95%	more than 50% effected		
BAGUIO	61,000	16,207	27	Below 18		estimated at well educated in some colonies and low education in others			60%	9%	91%	46%	high predom. gastro-intestinal	high	high
BUTUAN	45,000	19,800	43.5	60%	40%	30%	55%	15%	70%	35%	65%	98%	10%	60%	30%
COTOBATO	43,000	19,200	30	Below 18		Very limited			70%	2%	98%	98%	high	high	high
CAGAYAN DE ORO	41,000	4,450	11	80%	20%	25%	55%	20%	80%	60%	40%	98%	10%	44%	46%
JOLO	39,000	20,000	51	Below 18		predominantly low			95%	mostly tidal over foreshore in swamp 50%		50%	high in cholera		
OZAMIS	21,000	5,250	25	60%	40%	no information			95%	80%	20%	50%	high in respiratory		
MARAWI	17,000	6,780	44	45%	55%	very limited			70%	50%	50%	95%	25%	55%	20%

The characteristics of their architectural and community needs, in accordance with their habits, were studied from the point of view of providing a transitional type of "core house" and home economy land use proposal for a squatter-rehabilitation and relocation programme .

The excessive density, i.e. more than 600 persons per hectare, in many of the off-shore squatter colonies in the islands in central and southern Philippines, (as indicated in illustration 20), was traced to two reasons; (i) a lack of security on the land from thieves and brigands, and (ii) the extreme difficulty in purchasing land on the periphery of the built-up areas. All available land was used for growing coconuts, which had a high market value, and the owners refused to release it for any other purpose. Crowding together for group security had become a habit with many, and it is possible that this habit of living in the provinces contributed to the way the urban squatters settled in the City of Manila. The squatter colonies in the North Harbour of Manila, in 1963, showed a total disregard for providing any space about buildings, even that required for the most elementary community needs. It was then, (and probably is still), customary for squatters to build beside the railway tracks, and to build their shacks within 2 or 3 inches of passing trains. The verges of the railway tracks which were on the approaches to, and those running through Manila, are crowded with squatter shacks; the tracks are used as a playground by the children, despite frequent tragic deaths and accidents.

Although they had voluntarily established themselves in this way, nevertheless a code of behaviour, mutual tolerance, and unwritten rules prevailed, (presumably the traditional code of behaviour inherited from their rural barrios), among the families in the different colonies. This code pertained to the use of what little space was available for drying laundry, to queuing for the water supply, to the storage of their individual cooking fuel, and to other standards of community behaviour.

Diagnostic studies were carried out of the squatter colonies in twelve other towns and cities throughout the Philippines, nine of which are summarized on Table 16, to determine their characteristics. The specific studies ranged from the tourist resort of Baguio City, situated in the mountains of norther Luzon, to the town of Jolo, in the Sulu Archipelago, in the far south. An inspection of the towns in the Visayas revealed no deviation from the characteristics of those squatter colonies, all of which were consistent with the characteristics of the squatter colonies in Manila; the standards of accommodation were equally low, but the incomes of the families were, on the average, lower than the averages of the squatters in Manila.

TYPICAL HIGH DENSITY OFF - SHORE SQUATTER COLONIES IN JOLO, SOUTHERN PHILIPPINES (1963)

DIAGRAM No. 20

The results of the survey illustrated that despite the extent of resettlement opportunity, and the availability of land throughout the whole of Mindanao, all cities and towns had a squatter problem ranging from 7.5 per cent of the population of the developed area of the City of Iligan, to 44 per cent in Marawi, a city some 50 kilometres south of Iligan on Lake Lanao.

It was determined, however, that a good many of the squatters on the shores of Mindanao had originated from the typhoon-swept Visayan Islands, and those in the south of the island had migrated from the islands in the southern archipelago, migrating frequently because of poverty, deprivation, lack of security, and the absence of a sufficient water supply.

Section 8. Characteristics of the Urban Squatters in the Philippines

The characteristics of the squatter colonies were analysed under the headings of predominant age group, and educational attainment of the squatters themselves, prevalence of sickness, along with the characteristics of sites, (swamps, etc.), provision made for sanitation and water supply, and the residential density. The analysis varies from city to city throughout the Philippines, but the variation is within such tolerably consistent limits that a pattern can be described of the characteristics common to all the urban squatter colonies throughout the towns and cities of the Philippines at that time, and these can be summarized as follows:-

Home and family circumstances

Apart from the varying ratio of squatters to urban population, in 1963, the living conditions of the squatter families were tolerably consistent in their poor standard:

(i) Age. The predominant age group in almost all squatter colonies consisted of people below eighteen years of age; the minors comprised more than 60 per cent of the squatter population, compounding the urban problem for the next generation.

(ii) Educational level. The survey indicated that the educational attainments of the squatters were, (on an average, though there were variations for each colony), those of a people who had an aspiration for self-improvement, and who could be employed in a variety of urban services, if such were provided;

those who had received either primary and/or elementary education amounted to 50 per cent.

those who had high school or college education amounted to 20%.

heads of household who had not received any type of formal elementary education amounted to 30%.

(iii) Overcrowding of families. Often, in the various squatter colonies, as many as 50 per cent or more of the families were sharing accommodation; frequently the accommodation was a single-roomed shack. The obligations and customs of the "extended family system" in the Philippines contributed to this overcrowding problem.

(iv) Sanitation. The great majority of squatter shacks in the various colonies had made no provision for sanitation, though, in a small number of squatter colonies throughout Mindanao, open-pit sanitation was provided by about half the families.

(v) Water supplies. Very rarely was there any piped water supply to the dwellings, and in most cases, supply was from a well, pump, spring, or public faucet; the latter was often at intervals of more than 100 metres, and usually one faucet for every 100 or 150 families.

(vi) Sickness. The incidence of sickness, such as cholera and other gastro-intestinal diseases, pneumonia, tuberculosis, and other respiratory diseases was so high that practically all of the occupants were affected annually by one or more of the above illnesses.

(vii) Employment. Approximately 50 per cent of the heads of households had reasonably regular, (though casual), work on the wharves, or in the markets, or the fishing industry; 20 per cent had only occasional, casual employment; approximately 5 per cent were in central government, or local government, services; 25 per cent were totally unemployed.

(viii) Densities of settlement. The densities of the squatter population averaged between 200 and 400 persons per hectare, with an exception in Jolo, where it had increased to 680 persons per hectare.

(ix) Incomes. The survey revealed that usually, throughout all the colonies, about 80 per cent of the families had an income which provided for less than bare subsistence, 5 per cent were destitute, with the earnings of the remainder ranging from just above subsistence level to a high income.

(x) Site conditions of colonies. In practically all cases, more than 50 per cent of the squatters had established themselves in waste swamp areas, on river banks, or "off-shore", in and around the cities, i.e. off the coast or on banks of rivers, which indicates that, for the most part, they had taken the line of least resistance in the hope of being near enough to the city to gain employment.

The settlement of foreshore, and off-shore, squatter colonies, which are a feature of all the cities built by the sea, can be observed at its peak in the town of Jolo, in the Sulu Archipelago as shown on illustration 20. It has been traditional to build immediately off-shore, built on the basis of low residential density over tidal water, this type of accommodation

throughout all of the hot, humid tropical zones is ideally suited for comfortable living, and helps to adjust the natural environment to "comfort temperatures" without mechanical devices. It is also a most hygienic form of accommodation, for the sea and tide provide a built-in sewage disposal system. It is a traditional form of housing throughout the southwest Pacific region, and some of the tropical zones in South America, such as the Amazon River Basin.

The difficulties of allowing such off-shore squatter colonies to grow in an uncontrolled way, as was the case in Jolo, begin when the colony becomes so consolidated, and so permanent, that the occupants begin to fill in the site under their dwellings in the hope of attaining a title to their "individually reclaimed foreshore lots"; this causes an obstruction to the normal tidal flow, creating stagnating pools in which are entrapped all waste matter, and thereby causing regular outbreaks of cholera and other serious sicknesses.

Classification of squatter family types

The classification of the various types of squatter families in Manila was made on the basis of the studies carried out:

For cities by the sea, harbours or large river estuaries

(i) Foreshore squatters. There were many whose livelihood has always been from the sea, from fishing, etc., and who invariably establish their colonies on the beaches, rivers, and fore-shore lands around the cities. In Manila, they numbered approximately 10 per cent of the total squatter population in 1963.

In the towns and cities other than Manila, the same group were often those who needed shelter from lawless hinterland marauders. These are the families who have moved in from the rural areas because of the peace-and-order problem, i.e. the absence of security, whose whole aptitude directs them towards a rural pursuit, and who usually possess little or no skill or training suited for urban living. Upon interview, these families indicated that they would prefer to be resettled in a planned rural community, if given an opportunity.

(ii) Typhoon disaster families. These were families who had migrated from the typhoon-swept area of the Visayas, and whose aptitudes were fairly general. They had moved to the city in the hope of obtaining an improved set of circumstances for themselves and their families by turning their efforts to any opportunity in the city which might present itself; they

were estimated at about 30 per cent of the total squatters, but more than half of them expressed a preference to continue in agrarian pursuits in an organized planned rural community, if the opportunity were provided.

(iii) Economically depressed rural area squatters. These were families who had left the economically depressed rural areas, where former land-tenancy rulings made it impossible for their families to prosper and develop, and who had agrarian aptitude, but, who were resourceful at turning their hand to any occupation. They were estimated at approximately 30 per cent of total, and again, the majority of them expressed a preference for an agrarian way of life, providing security of tenure could be provided for the land.

(iv) Enterprising families seeking improvement of their own circumstances

These were families who had received secondary education in the provincial areas, but, because of limited opportunities to use their education to advance their family circumstances, and owing to the excessively high costs of land or accommodation in various cities, had resorted to squatting in Manila, in the hope of being able to participate in society. They usually took the line of least resistance, and settled in the swamp areas or in lots, the occupation of which was likely to cause little objection or resistance from the owners, i.e. the national government or absentee landlords; they numbered approximately 20 per cent.

(v) Speculator and Professional squatters. There were, however, approximately 10 per cent of the total squatter population who were the speculators and professional squatters, who had tended to give a distorted impression of the whole squatter problem. This group comprizes qualified attorneys, and political agents, who acted as representatives in the cause of the squatters, but invariably, their cause was to obtain possession of land for themselves under any priveleges accorded to the squatters, or for winning votes for the local political candidates.

The observation and analysis in this section of the "inverse urbanization process" of Manila in the early 1960's, draws attention to another vital element, and indicator, of urbanization, that of the personal dignity of the built urban form and environment. Though many of the occupants in the slum squatter colonies may have had an education, may have had a radio, read newspapers, had an adequate nutritional intake, etc., the urban environment within which the families were living had almost become accepted by the squatters as inevitable, with little hope of a better alternative.

Meeting the inadequacy of urban infra-structure, and public services (the latter having to be provided from the public, or public corporation, funds), and the inadequacy of the total urban system in which they could be productively employed, and thereby contribute to the promotion of the society, is the challenge of the contemporary societies of the developing countries, and such other agencies, or institutions which have reason to be involved.

This case study of Manila can be described as fairly typical of the urbanization problem, as it manifests itself in most other developing countries, varying only in scale and intensity.

PART II

THE URBANIZATION PROCESS OF BRITAIN

Britain is one of the few countries throughout the world, in which, in the context of a free market economy, the Government has directly intervened in the planned urbanization programme for the whole country, and in which, the government actually plans, finances, builds and manages new towns as one of its functions. Part II endeavours to trace the sequence of events from the economic and social history of Britain which have led to the latter.

Chapter 4 reviews the origin of settlement in the U.K., including a comment on the urban system and infra-structure which the Romans provided, but which was abandoned with the departure of the Romans. The re-establishment of an urban system through the Dark Ages, from William the Conqueror, the new town building by the Plantagenets, and the growth of the medieval towns as 'central places' under the control of the Guild merchants, is reviewed.

Chapter 5 examines British towns in the pre-industrial era, from the time when Britain emerges as an independent nation, with a noticeable shift of population from rural to urban centres, with mounting poverty in the towns, and inadequate means of formating wealth to support the increasing urban population, until urban institutionalized systems had been created to expand the economy at a rate comparable with the rate of increase of the urban population.

Chapter 6 brings attention to the way in which local initiative grew to provide for the 'improvement' of the towns in the 17th-18th centuries.

Chapter 7 traces the growth process of the urban industrial system over the past century, and the way in which Central Government was finally encouraged, and had sufficient income, to directly, and positively, intervene and guide the urbanization process of the country by the mid-20th century.

CHAPTER 4. THE FORMATIVE YEARS BEFORE INDEPENDENCE

Section 1. Introduction

Leonard Reissman[1] argues that the industrial urban development of the West, and that in underdeveloped countries today, is the same process, although greatly separated in time and place. For the most part, it can be argued that the industrial urban process has been taken to the underdeveloped countries as part of the extended market system of the West, which is needed by the West to support its own industrial process. Several of the underdeveloped countries recognize in the industrial urban system a means of accelerating the growth rate of the economy, which will help speed the process of urbanization, i.e. in the sense of improved quality of life in the urban areas.

The industrial process emerged in northern Europe and the U.K. in the 18th and 19th centuries;it emerged as a response to the challenges of the time. The pressure of poverty and population in the towns, an increasing population, a slow rate of increase in wealth and markets was a challenge which was overcome by enterprize, initiative, application of science and technology, a financial, trade and marketing system, and the fortuitous resources of both minerals and coal. Iron working and mining had been going on in the country since before the Roman occupation, but its exploitation for the purposes of building an industrial economy had to await the time when a combination of the above factors were present.

The industrial urban development of the U.K. in the 19th century provided the expansion of the economy, the growth of national wealth, and the horrors of industrial urban living, the reaction to which finally brought about Government intervention, a century later.

As Reissman has pointed out, the seeds of industrial urban development have already been sown in many underdeveloped or developing countries. Whether the seeds are the right specie for the developmental climate of those countries, or whether the seeds can be fertilized in the societal environment of those countries, to flourish in, and nourish, the whole country, is under serious observation by the social scientists today.

There are three separate concepts on urban growth, related to the role of the city in the development process, and which would have to be applied to test the suitability of the industrial development process of the west[2] in developing countries;

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(1) REISSMAN L.; The Urban Process, Cities in Industrial Societies, Glencoe, p.167.

(2) op. cit., see Chapter 1 Section 4, p. 16.

(i) the dispersionist school, which contends that contemporary knowledge and culture is the significant factor in development, and that the application of advanced technology, rapid transport, telecommunications, etc., dispenses with the need for towns and cities as the unifying or "synergizing" elements of the society; therefore, the industrial urban system of the west, especially the examples of the 19th century, are not necessary for development.

(ii) the concentrationist school, which believes that a high rate of concentration of people in the existing cities (i.e. following somewhat, the 19th century process in the west) will create the circumstances for economic growth and national development, because it is only in the larger cities that the organizational, institutional and management capability exists which can accelerate the growth, and urbanization, process;

(iii) the regional-urban integrationist school, (or city-region concept), which stresses that there is, in an ecological and natural system, a hierarchial urban order in a region, with towns descending from the primate city of the region, in order of size, distances, services provided, and function, all interacting as cellular units within a totally integrated regional ecological system. This presupposes a strong element of planning, and the conscious 'planting' of new towns within the natural regional and ecological system, ~~in which the industrial urban model would resemble more the existing British New Towns principle, which is outlined in Chapter 7, Section 7 of this thesis.~~

Policy decisions throughout the developing countries are being influenced by all three schools of thought. No doubt, there is some monitoring and evaluation of the suitability, and relevance, of the 19th century western type industrial urban development model which is being undertaken, but whether it is being analysed in the context of the total growth process, or through the individual account books of the entrepreneurs and investors, is not known.

What is of particular concern to this thesis is that the U.K. has evolved from the 19th century industrial urban development model to a regional-urban system, over a period of a little more than a century, using new towns for metropolitan over-spill, as "growth centres", (and for other purposes), quite deliberately "to lift thousands of families from their depressed urban circumstances", most of which were created by the 19th century urban industrial system.(3)

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(3) Quotation from the Minister of Town and Country Planning, when introducing the New Towns Bill during the second reading in Parliament, on the 8th May 1946.

Yet, had that entrepreneurship, along with various institutionalized systems for providing finance, insurance, company law, trading, transport, technological skills, etc., not existed, then the already high level of poverty in the towns would have increased. There was no alternative for the increasing population in the rural areas, and the value of production from an agrarian economy could not increase at a rate approaching the rate of increase of population in the towns and cities.

A new urban structure was created for the country as a whole during the 19th century, one based on industrial output and transport. The urban population began to increase at a much faster rate than it had done for centuries past, because of the employment opportunities which were becoming available. This increased industrial output provided the means by which national income began to increase at approximately 3% per annum, and government income began to increase at 5% per annum.(4)

By 1946, the Government was in a financial position to be able to directly intervene in the planned urbanization of the country, and following the creation of a Ministry of Town and Country Planning, passed the 1946 New Towns Act, by which it was authorized to plan, build, finance and manage new towns.

In that one Act the chasms and/or barriers of independence of national government departments, (ranging from trade, industry, commerce, employment, housing, local government, transport and treasury), were all bridged to meet a single policy, the effort of which was to be focussed on several selected sites, to provide a civilized environment for living for an increasing number of families.

One might dismiss the origin and motivation for such a Bill as a spontaneous reaction by a Socialist Party Government to the post-war reconstruction needs of the country. Its origin, in fact, can be traced back to the previous 1914-18 war, and even before that, to the International Town Planning exhibition by the Royal Institute of British Architects in 1910, and before that to Ebenezer Howard, in 1898, and before that to the Victorian industrial towns, and the railway towns, the living conditions of which were very depressed by 20th century urban standards.

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(4) See Diagram 60, p.197, for a comparative analysis of the increase of urban population, national income and government income for Britain over the period 1801-1971.

This raises the question as to just how bad were the "depressed urban circumstances" (apart from the war-time damage) from which the Government in 1946 was going to lift thousands of families, and what were the causes over the preceding period of time, which made these circumstances so "depressed" as to warrant the passing of such a Bill. Such "circumstances" are invariably the effects of certain causes; one asks whether such causes were inevitable, or whether the opportunity had always been available to society throughout history to take alternative courses of action, and avoid the consequential effects of such deplorable living conditions!

It was during the Victorian era that Britain saw the fastest rate of urban growth, particularly of industrialized cities linked to the transport towns of the railways and ports. During the early part of the era, there was little control over urban construction, which led to the building of much speculative sub-standard housing in the towns. Effective legislative measures were introduced later to regulate and control standards of urban building construction to provide light, air, ventilation, space around buildings, sanitation, etc. There is no doubt that there was much of the very poor standard of Victorian city construction and housing which had survived well into the twentieth century, and was ready for replacement, but the Victorians had inherited an urban form and structure from their precedents, each reacting to, improving upon, or diverging from that which had gone before.

The recorded history of Britain provides a unique source from which to identify the urbanization process of Britain from earliest settlement, pre-industrial towns, to the complex inter-dependent urban system spread across the country today, as illustrated in Diagrams 22 and 23, pp.115-6 .

From such a study, one can identify a model of the growth process on a historical time scale, as illustrated in Diagram 21, p114, against which the equivalent stage of growth and development of developing countries of today can be correlated.

Diagram 21 summarizes the following chapters in Part II of this thesis, and shows the relationship between the growth of population, the beginnings of concentrated urban living, (irrespective of the quality of life), the beginning of a national trading system, the continued increase in urban population, (with a resulting pressure of people on the then almost exclusively privately financed urban system throughout the 18th century), and the rapid increase of both total and urban population, the growth of national income, government income, and the comparative increase in the primate city of London. Chapter 7, section 1, elaborates on the detailed estimates and figures which have been used to compile this graph.

After a century of experience in industrial urban growth, and expansion of national wealth, the British government adopted a procedure for planned urban development and control of land use throughout the countryside, the siting, financing, construction and management of new towns (with carefully prescribed urban environmental design standards), and a reconstruction of many parts of the slum and dilapidated areas of the old towns and cities, through town planning and an effective national housing programme. Since that time, the rate of economic growth in relation to population and urban growth has increased relatively.

The towns and cities in the underdeveloped countries are, for the most part, still in the pre-industrial era of the U.K. This thesis is concerned with examining the model of the urbanization process of the U.K. which has led to its present level of urbanization. This model can be used either as a system, or a 'reflection', against which the present pre-industrial urban growth processes of the developing countries can be correlated. From this correlation, procedures for accelerating growth towards a higher quality of urban life for the urban residents in the developing countries can be identified. It may well mean a priority of investment into "planned urbanization" as a preferable alternative to the industrial urban process through which the West has progressed (with its many social diseconomies) over the past century.

" TOWN AND GOVERNMENT - A review of the concern of Government in the urban growth process of Britain over the past 1000 years. "

This section endeavours to show the historical sequence of events which has led to the British Government intervening in the urban planning process of the country, and above all, undertaking the planning, construction and management of New Towns.

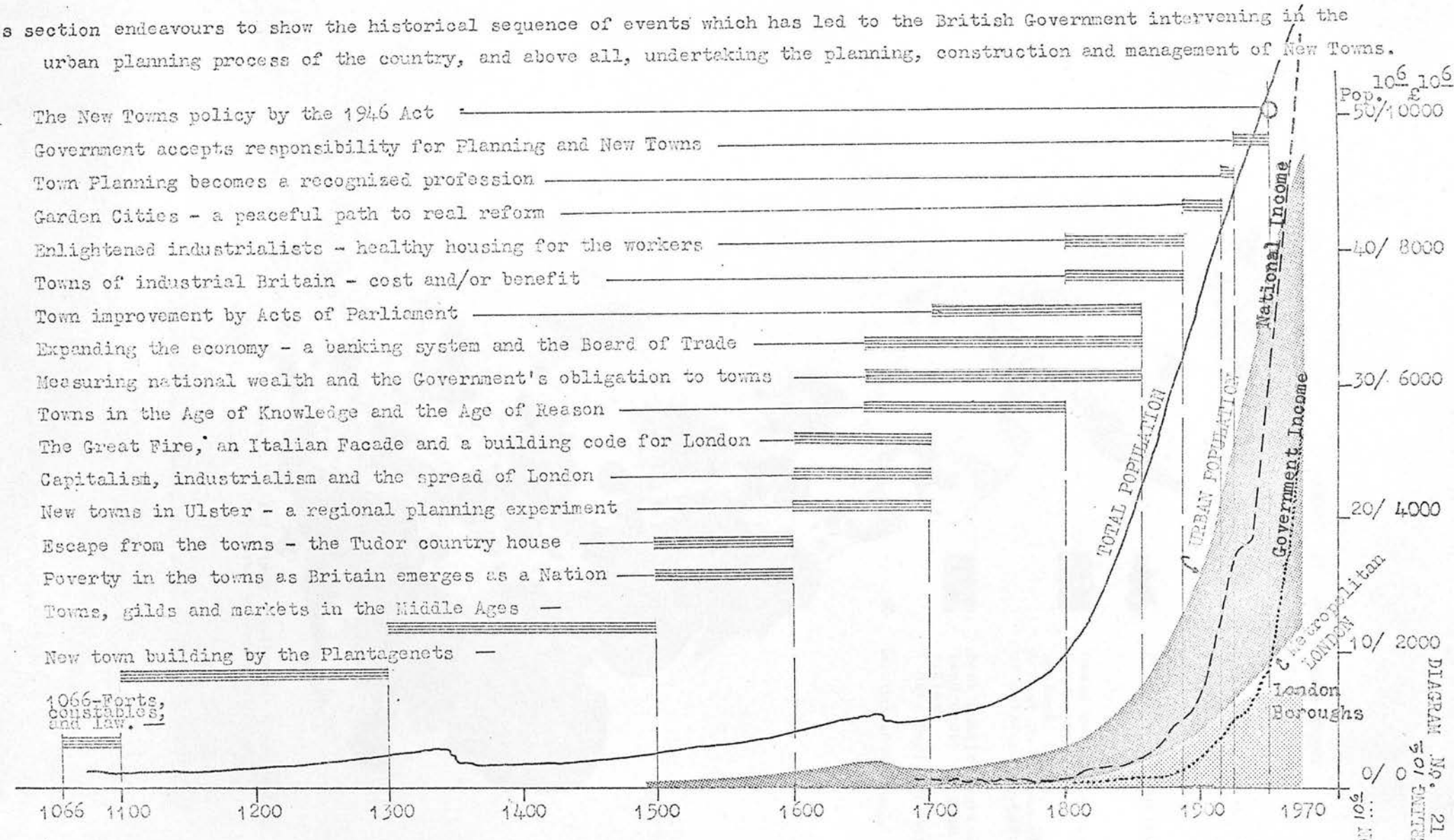


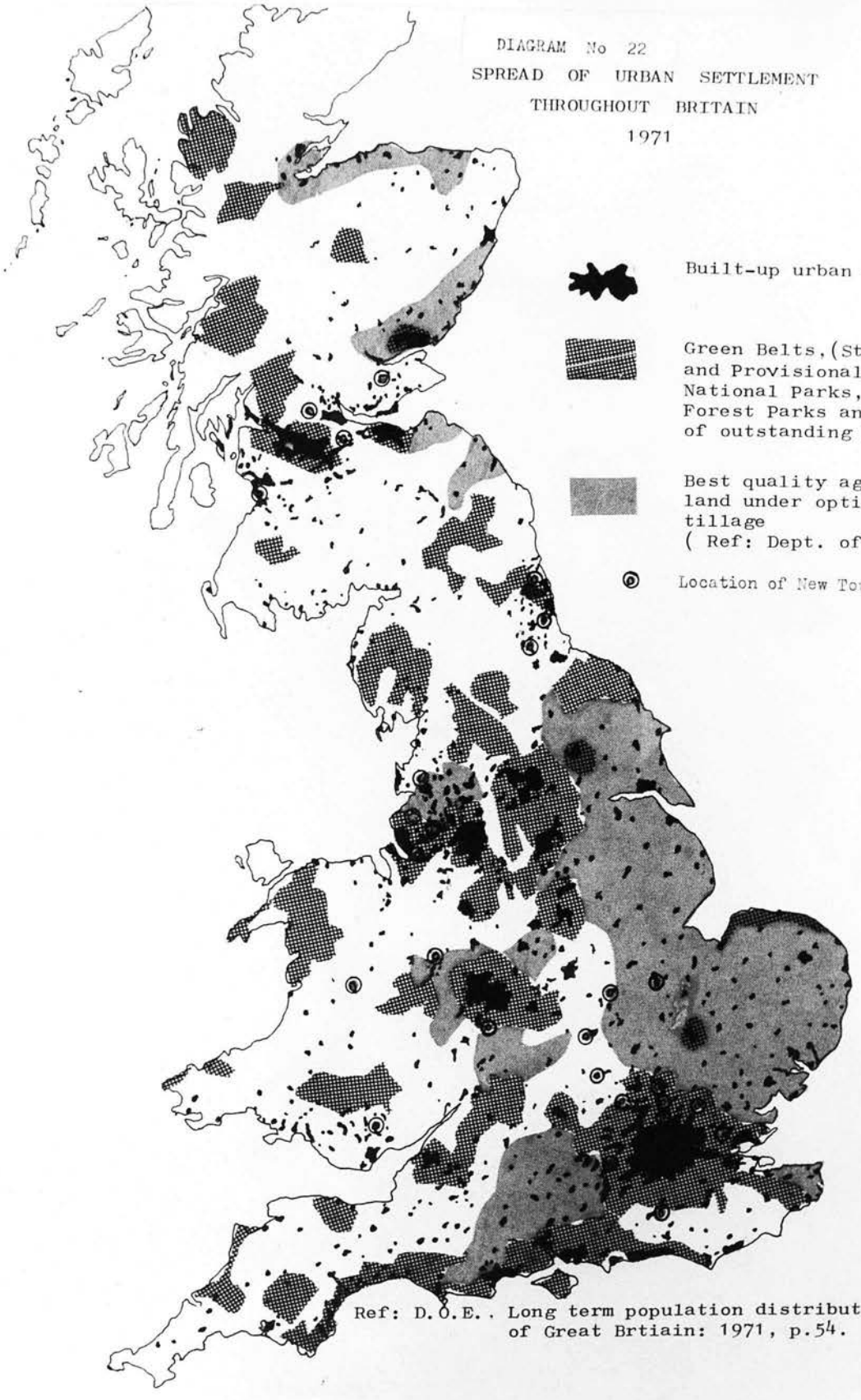
DIAGRAM No. 21

(The values of national income and government income have been adjusted to the equivalent of the consumer price index of the pound sterling in 1688, when such price indices first became available; see p.196 for conversion table.)

DIAGRAM No 22

SPREAD OF URBAN SETTLEMENT THROUGHOUT BRITAIN

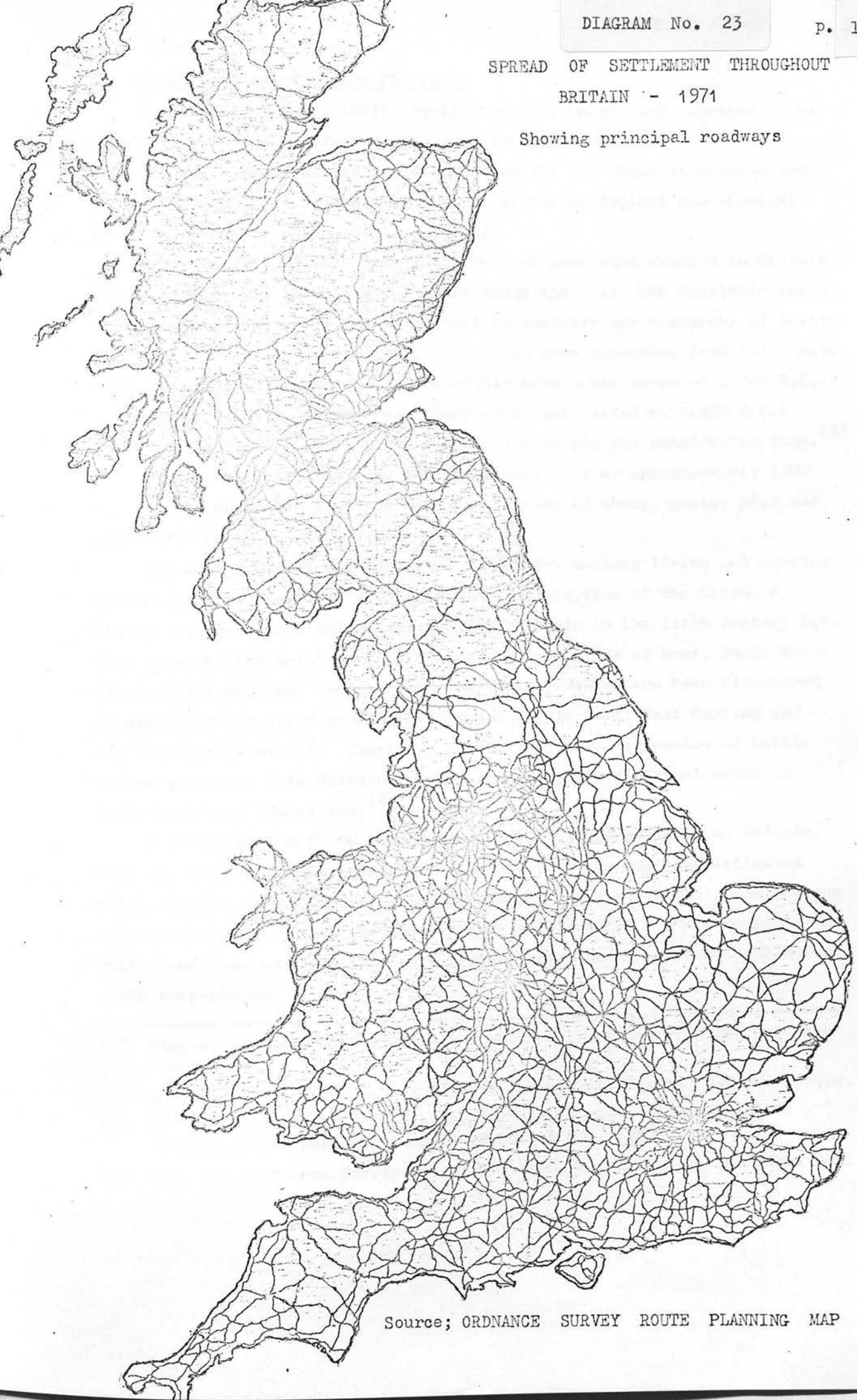
1971



Ref: D.O.E., Long term population distribution of Great Brtiain: 1971, p.54.

SPREAD OF SETTLEMENT THROUGHOUT BRITAIN - 1971

Showing principal roadways



Source; ORDNANCE SURVEY ROUTE PLANNING MAP

2. Urban Settlement before William I

Settlements are physically manifested by a built form, whether it be rural or urban. Therefore, a study of the built urban form (habitat) must include a study of the society which built the urban structures and/or now resides in it, along with a study of the ecological and physical environment within which it is contained.

Evidence is available that settlement of some kind existed in Britain for a considerable time before the New Stone Age, i.e. the Neolithic period, although the evidence is not sufficient to identify any hierarchy of settlement. The remains of huge monoliths, in an area extending from the remote Orkney Islands to Stonehenge, of neolithic hive tombs dated at 2,500 B.C., (resembling somewhat the Mycenaen Tomb of Atreus, dated at 1,250 B.C.) still pose a mystery as to the origin of the people who constructed them.(5)

It was not until the late Neolithic period, i.e. approximately 1500 B.C.(6) that organized farming, with the rearing of sheep, goats, pigs and cattle can be traced in Britain.

The most conclusive evidence of a cohesive society living and working in some form of organized settlement is from the time of the Celts, a Central European race which migrated into Britain in the fifth century B.C. They were skilled metal-workers, using the iron mines of Kent, South Wales, east-central England; remnants of their settlements have been discovered at places as far apart as Scarborough and Staple Howe, West Harling and All Cannings Cross.(7) There are indications of a succession of Celtic tribes migrating into Britain from this period; six different waves of Celts have been identified.(8)

Over the period 57-50 B.C. Julius Caesar conquered Gaul and Britain. When the Romans landed in Britain, they met with the most sophisticated Belgic leader, Cunobelin, at the most significant settlements, Camulodunium and Verulamium, known as the Catuvellaumi settlements. These consisted of wattle and daub houses, which were probably surrounded by wooden palisades, earth ramparts and ditches.

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(5) Piggot, S., Dawn of Civilization, and The Pre-history of the Scottish People.

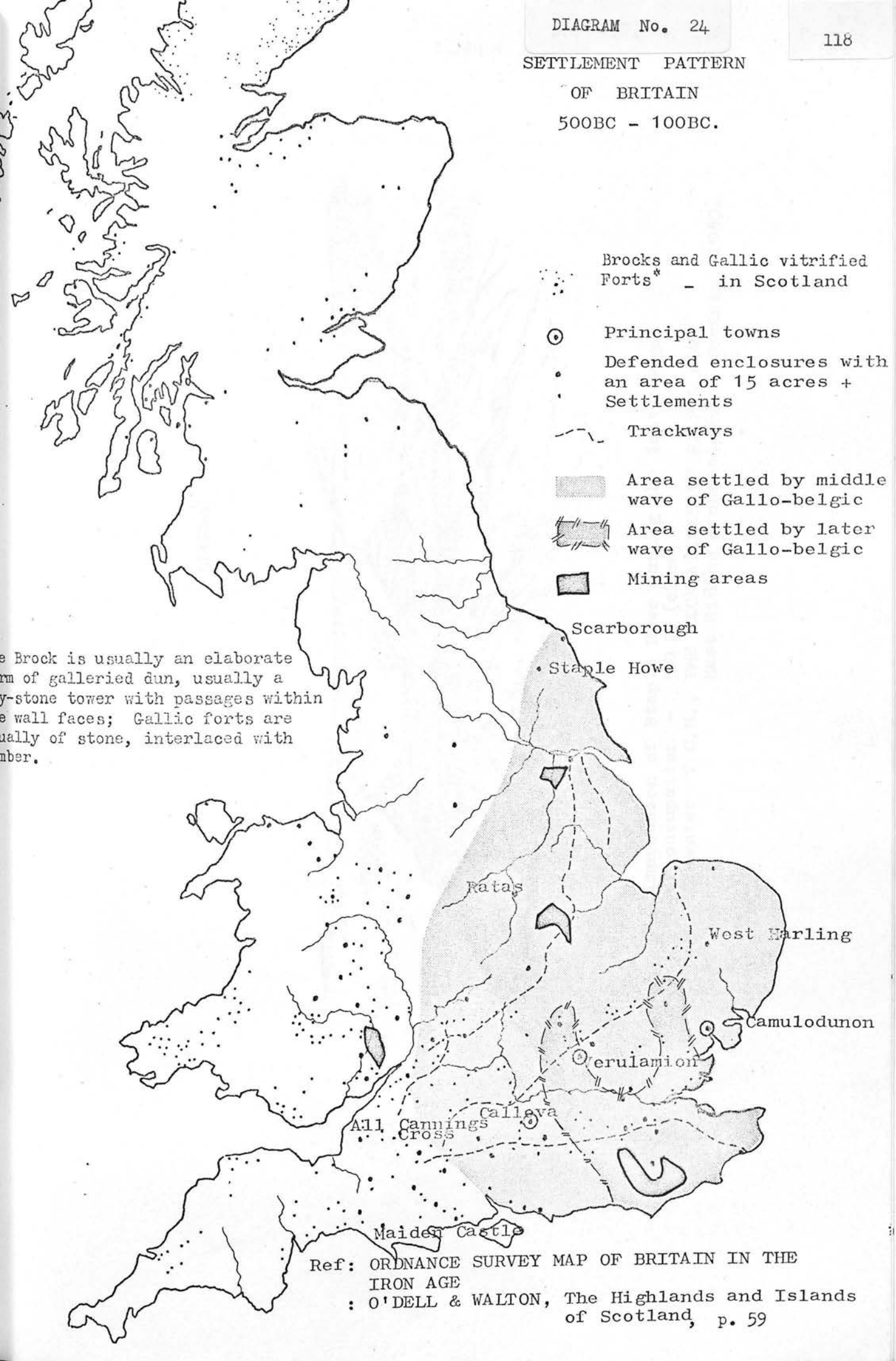
(6) Quennell, C. & M., Everyday life in Pre-historic Times, Batsford, 1959.

(7) Brewster, T.C.M., The Excavations of Staple Howe; East Riding Archaeological Research Council, Dennis & Son, 1963.

(8) Dir. Gen. Ordnance Survey Map of Southern Britain in the Iron Age, 1962.

DIAGRAM No. 24

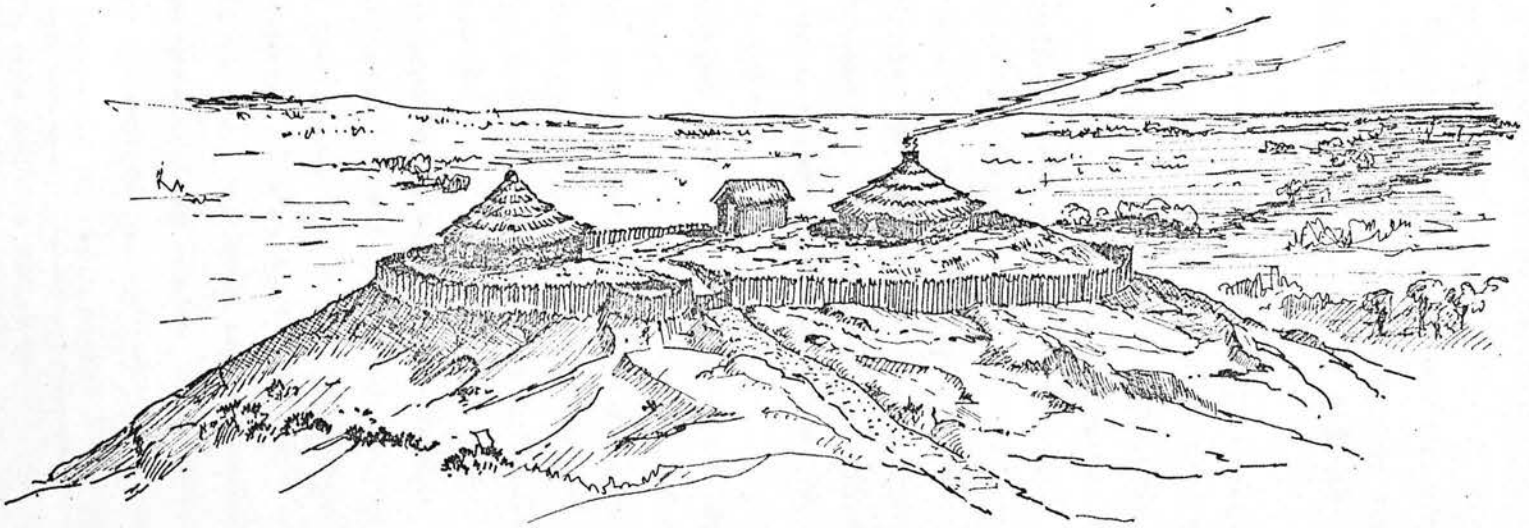
SETTLEMENT PATTERN
OF BRITAIN
500BC - 100BC.



e Brock is usually an elaborate
rm of galleried dun, usually a
y-stone tower with passages within
e wall faces; Gallic forts are
ually of stone, interlaced with
mber.

Ref: ORDNANCE SURVEY MAP OF BRITAIN IN THE IRON AGE
: O'DELL & WALTON, The Highlands and Islands of Scotland, p. 59

DIAGRAM 25



Impression of Staple Howe during the last stages of occupation - 500 BC (circa)
Brewster T.C.M., THE EXCAVATIONS OF STAPLE HOWE
East Riding Archaeological Society, 1963.

The late Belgic tribe, the Atrebates, had established themselves throughout present-day Berkshire, Hampshire, most of Wiltshire, West Surrey and West Sussex, and had established their cantonal capital, Calleva Atrebatum, as their centre of local government which co-existed for some time with the Roman provincial government. It fell to the Romans in 45 A.D. and Roman Silchester was built over the site, with forum, public baths, regular 'insulae' and 20 to 25 feet wide streets with cambered roads. The irregular octagonal boundaries of the original town were retained by the Romans.(9)

Until this time, the evidence available indicates that all the settlements followed a haphazard village layout, with huts made of wattle and daub with thatched roofs, surrounded by a stockaded fence. The settlers were farmers, and were apparently good craftsmen, skilled at weaving, turning wood, making pottery, and able to smelt iron.

The way in which the Romans invaded and superimposed their own concept of a town, with sanitation and water supply, public buildings, social and recreational buildings, does demonstrate and support the notion that the city was the instrument for the spread of the culture of the ruling establishment. The same structure and system was then used to extend the marketing and trading system.

The Romans brought with them a complete system for town building to support their society; this meant the layout and construction of the whole town, aqueducts for water supply, proper sanitation and drainage systems, central heating in houses, baths, villas, libraries, and in some cases, such as Verulamium, a theatre, along with a capacity for constructing roads throughout the country.

In 43 A.D., Emperor Claudius visited Britain; it was decisive for the Romanization of Britain. Until this time, although the legions had established themselves throughout the land, they had not totally subjugated all the original Gallo-Belgic Celts, Picts or Scots. Queen Boadicea led a national revolt in 61 A.D., but this was suppressed. From that time, a programme of Roman colonization began; five great road systems were laid out to give access throughout the country to the many forts and mines, four of these systems converged on, or radiated from, Londinium.

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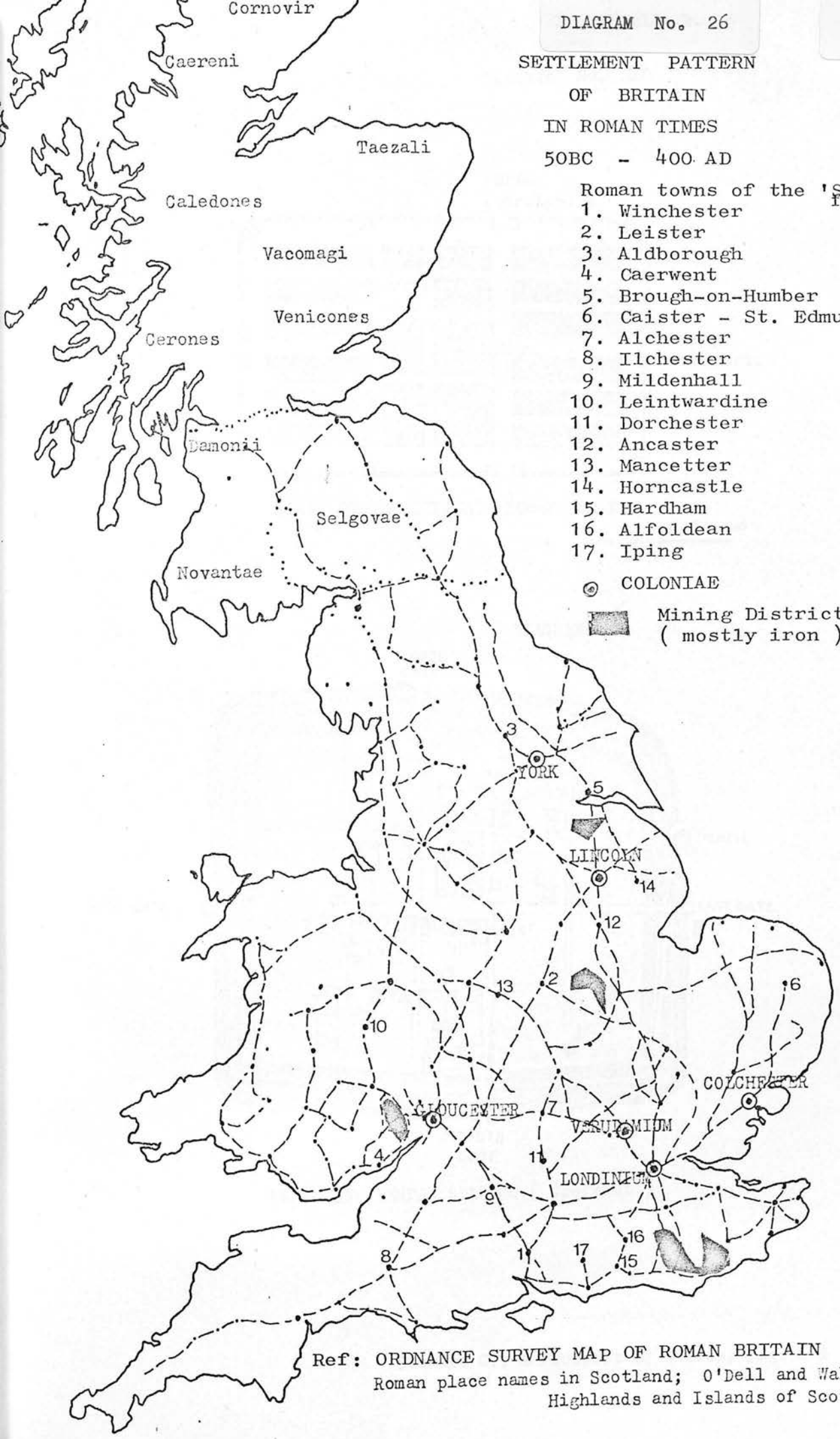
(9) References to this section are several, but in particular:
Wheeler, Mortimer, Maiden Castle; Soc. Antiq. of London, 1943.
Biddle M. and Hill, D., Late Saxon Planned Towns; Antiquaries Journal, Vol. LI, Part I, 1971, and
Boon, G.C., Roman Silchester, Parrish, 1957.
Richmond, I.A., Roman Britain, Johnathon Cape, 1963.
Stenton, M., Anglo-Saxon settlements in England, Oxford History of England.

DIAGRAM No. 26

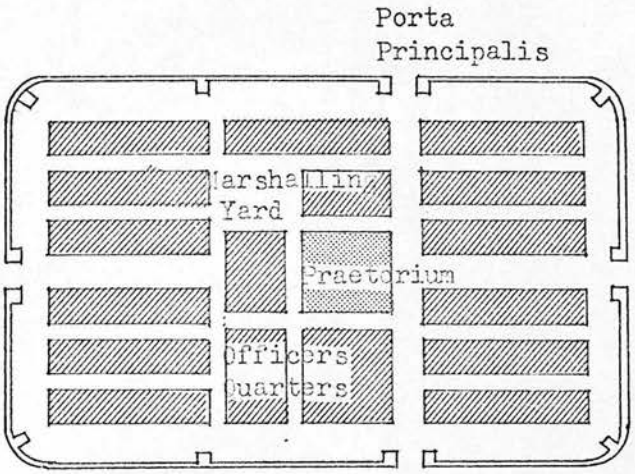
SETTLEMENT PATTERN OF BRITAIN IN ROMAN TIMES

50BC - 400 AD



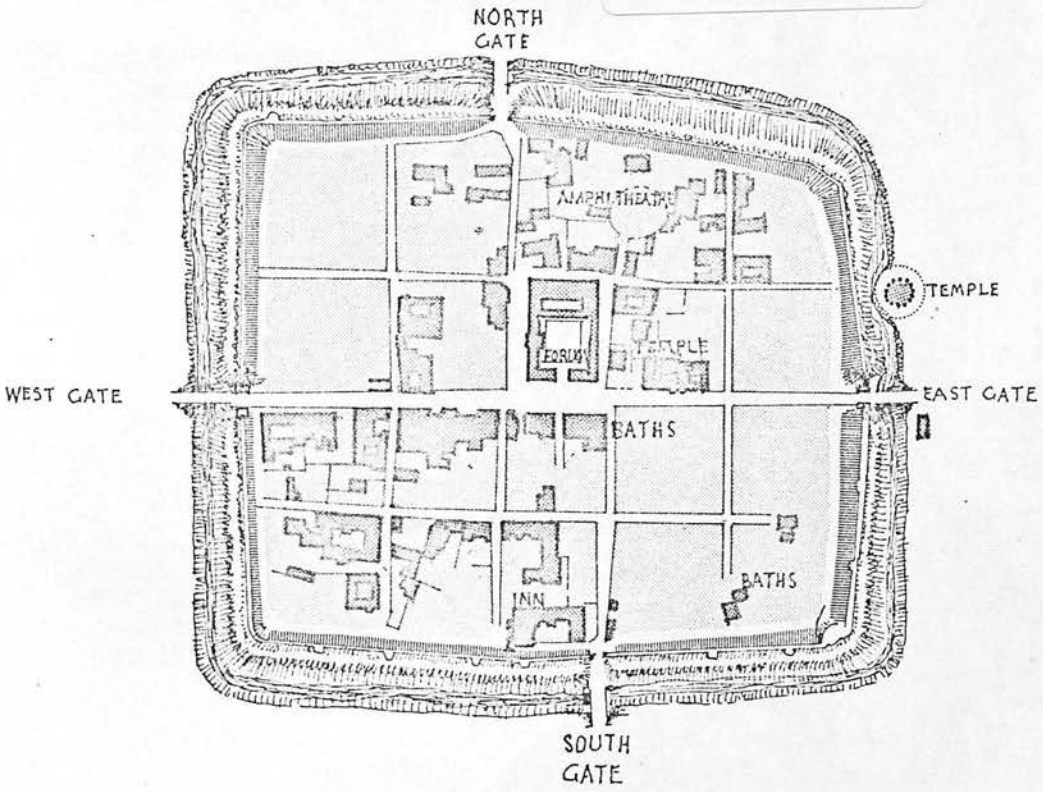
Ref: ORDNANCE SURVEY MAP OF ROMAN BRITAIN
Roman place names in Scotland; O'Dell and Walton, Highlands and Islands of Scotland.

DIAGRAM No. 27



PLAN OF A TYPICAL ROMAN CAMP

DIAGRAM No. 28



PLAN OF VENTA SILURUM (Caerwent)

Stewart C.; A Prospect of Cities, Fig. 4 & Fig. 6

DIAGRAM No. 29

CONCEPT OF A TYPICAL ROMAN TOWN IN BRITAIN

Pictorial Education, Oct. 1973, p.13.

The principle rectangular or square planned Roman towns were Winchester, Leicester, Aldborough, Caerwent, Brough-on-Humber, Caister St. Edmunds, Alchester, Irchester, Mildenhall, Leintwardine, Dorchester on Thames, Ancaster, Mancetter, Horecastle, Hardham, Alfoldean and Iping - all Romano-British. For the most part, they were occupied by villas, each with a large garden.

As the Roman occupation continued, and prospered through its trading and management system, some of the profits were reinvested into building more and more towns, most of which bore the sign of having been built to meet the needs of Roman society; baths, temples, and fora, all built in stone and brick instead of wood and mud. The indigenous population continued to live in villages, hamlets and farmsteads outside the Roman towns.

By 313 A.D., when Constantine elected Christianity as the new national religion for the Romans, the main towns of Verulamium, Colchester, Lincoln, Gloucester, York and London were well established as district centres, with appropriate Roman social and cultural facilities. The skill of the British cloth makers was then famous, and many of the British were Roman citizens. The foundations were laid for a permanent urban structure for the nation, to which new settlements would be added as the population increased.

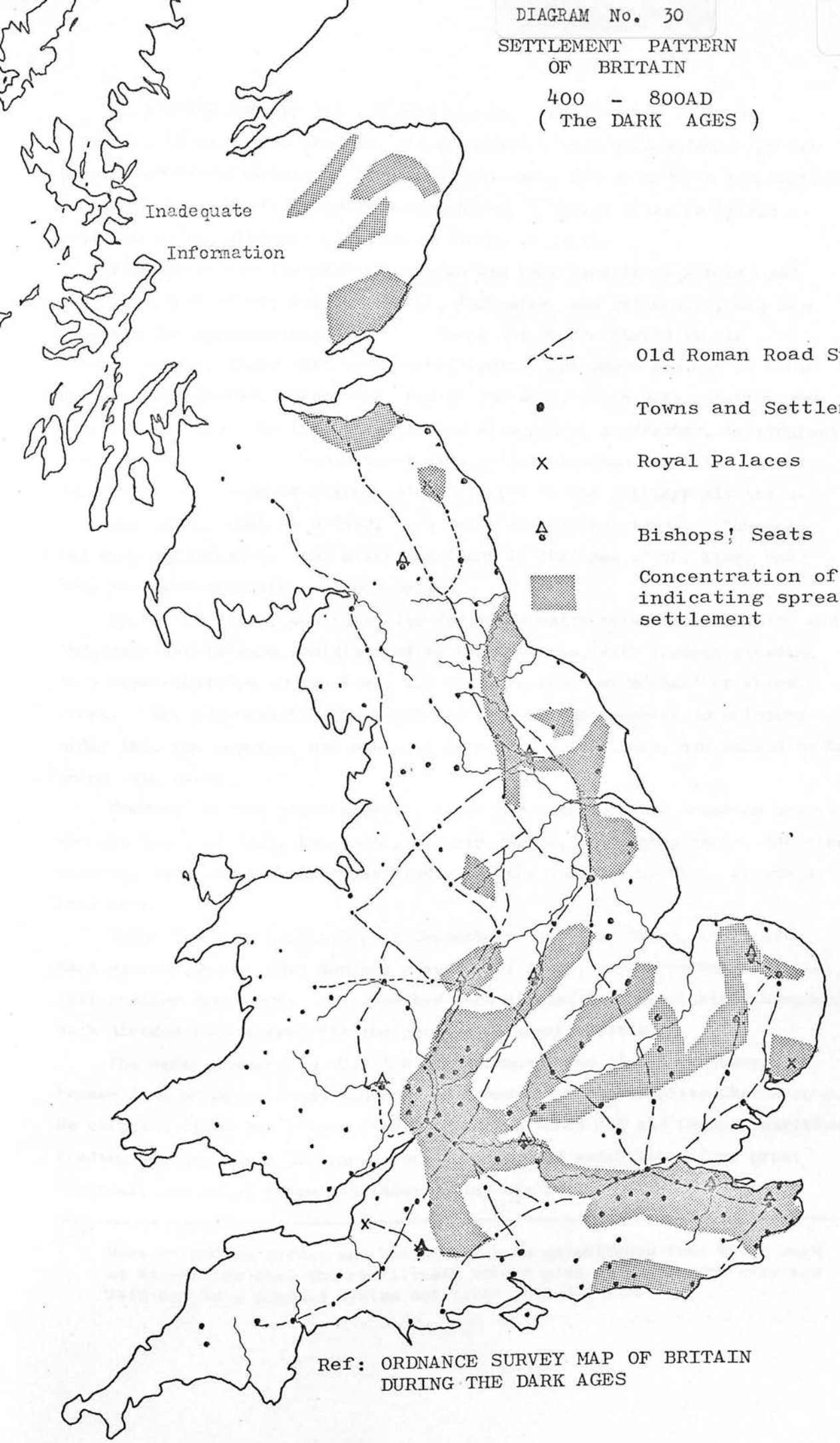
With the departure of the Romans, over the period 410-442 A.D., the strength of the nation and the society departed also. The way was open for the large scale invasion (or migration) by the Jutes, Angles and Saxons, all from northern Europe, all possibly suffering from pressure of population on land which was subject to severe drought, and subject to invasion from the east. These newcomers settled and organized themselves in seven principal areas; the Saxons in Essex, Wessex, Sussex; the Jutes in Kent and Mercia, and the Angles in East Anglia and Northumbria.

The Roman Church was establishing itself in Britain, and by 597 A.D. Augustine was satisfied that Kent was converted. In 664, the Synod of Whitby was held, which prepared the way for Theodore of Tarsus, Archibishop of Canterbury, to influence the leaders of the minor kingdoms, and pave the way for the church to play an increasing role in the administration of the country. He introduced a strictly Roman parochial system, and a centralized episcopal system which became the model for the secular state, and a new model for Kingship. His national synods brought rival kingdoms together, under a common cause and purpose.

DIAGRAM No. 30

SETTLEMENT PATTERN OF BRITAIN

400 - 800AD
(The DARK AGES)



Ref: ORDNANCE SURVEY MAP OF BRITAIN DURING THE DARK AGES

In the 9th century A.D., Alfred brought learned monks from the Continent to establish schools, and organized a system of defence for the people, encouraging them to live in better-made, and defendable communities through which more trade could be organized, although there is little evidence of any advanced building knowledge or skill.

Winchester was the capital, London had been rebuilt as a fort, and old Roman town sites, such as Exeter, Rochester, and Chichester, had been selected for re-construction.(10) Among the places listed in the Burghal Hidage, there were seven rectilinear plans which are not of Roman origin; Winchester, Chichester, Exeter and Bath, which were superimposed over Roman sites, and three new layouts altogether, at Wareham, Wallingfort, and Cricklade. It is suspected that a policy of urban formation was adopted in the reign of Alfred, as a response to the military situation.

New towns, such as Oxford, were built as garrison towns. "Thegns" had been appointed to look after the towns in the name of the King, and keep the fortifications in good order.

Up to this time, no common law for the country existed; the shire and 'hundred' courts were administered by local custom, with freemen pleading to a representative of the King, who would be the 'ealdor-man' or shire reeve. The old monasticism, which had been so instrumental in bringing order into the country, had now lost much of its influence, and seemed to be going into decay.

However, by the tenth century, trade and commerce were becoming active, and the towns of York, Leicester, Lincoln, Derby, Nottingham became thriving centres; London, for the first time since the Roman occupation, became a busy port.

Saint Dunstan, Archbishop of Canterbury, and King Edgar, (959) with hard working monks, gave England a period of peace, good government, quiet, well-stocked farmlands; the land had been divided into eight minor kingdoms, each divided into shires for the purpose of administration.

The Danes invaded in 1017 A.D., and Canute, son of the conqueror, became King of England and Denmark, an "emperor" modelled after Charlemagne. He extended trade and commerce into an active North Sea and Channel maritime trading system, which prospered considerably, and established four great earldoms, and seven lesser earldoms during his reign.

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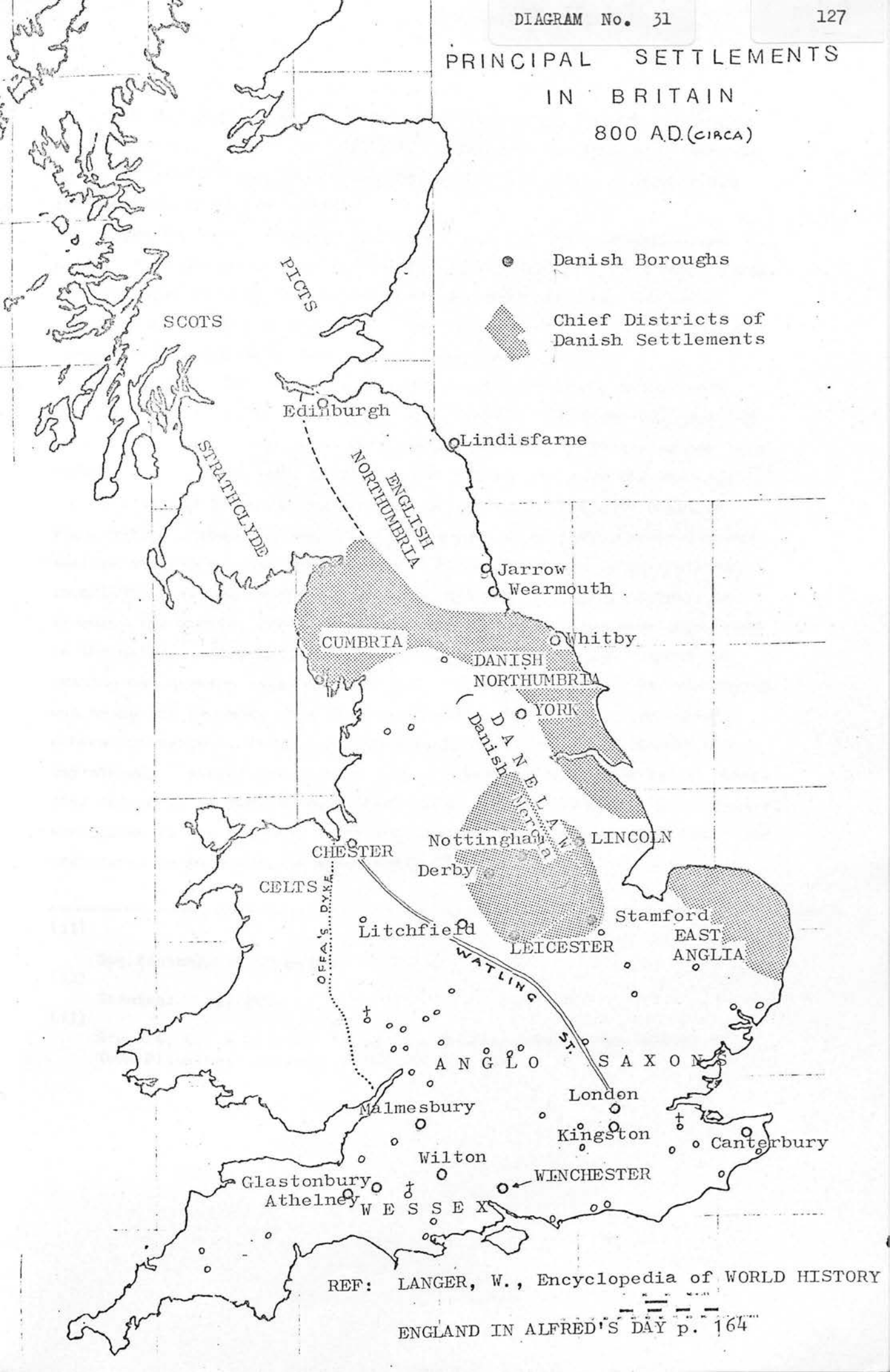
(10) Doctors Martin Biddle and David Hill have established from their work at Winchester that the rectilinear street plan of the modern city was laid out as a planned system not later than 904 A.D.

PRINCIPAL SETTLEMENTS IN BRITAIN 800 A.D. (CIRCA)



REF: LANGER, W., Encyclopedia of WORLD HISTORY

ENGLAND IN ALFRED'S DAY p. 164

Upon his death, however, the system began to fall apart, for want of management. Before his death, he transformed the Danegeld, (the tax collected annually to buy off the Danish invaders), into a regular tax for the defence of the realm.

There is little evidence to suggest that very much attention was paid to town design or construction during this period. The Roman towns were not used as such, but rather provided ready cut stone and bricks for the construction of churches.(11) The buildings in the town were mostly timber, wattle and daub, with streets more like lanes.

England, at this time, with probably less than one million total population, was extensively covered with forest; the Roman highways had fallen into disuse, and there was doubtful security of travel on any ways through the forests, some of which were reserved for game and hunting.(12)

The thegns lived in the Hall of the settlement, usually built of stone with a timber and thatched roof, around which were grouped several smaller buildings with 'bowers' (sleeping rooms), store rooms, kitchen, invariably a wooden church, and nearby, the huts of the villagers, the freemen, the churls, (the husbandmen) and the serfs, (who were under bond to the Hall). Surrounding these villages, areas had been cleared for grazing and growing subsistence crops. The areas cleared had been shared out among the freemen, some for ploughland, some for wheat and barley, others for meadows, usually by the streams and rivers, for grazing and hay-making. Nearer the forests were the common lands for herds of sheep, pigs and goats to feed as best they could. Larger grants of land (Bocland) were given to the Bishops, Elder-men, and the chief thegns, and these were registered in the book, or Manor Rolls.(13)

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(11) See footnote 11 on p.129 .

(12) Stenton. op. cit.

(13) Stewart, C., A Prospect of Cities, Studies towards the History of Town Planning; Longman, Green and Co. 1952.

(11)

Hassall had collected many valuable translations from the ancient manuscripts, in 'How they Lived'. The following gives the account of acts of Ealdred and Eadmar the eighth and ninth abbots of St. Albans from Chronica Monasterii S. Albani, Gesta Abbatum Monasterii Sancti Albani, ed. H.T. Riley, Rolls Series, 1867, vol. 1. pp.24-28, translated.

(1) St. Albans, excavations 900. Roman bricks are a conspicuous element in the monastery church, now the Cathedral of St. Albans.

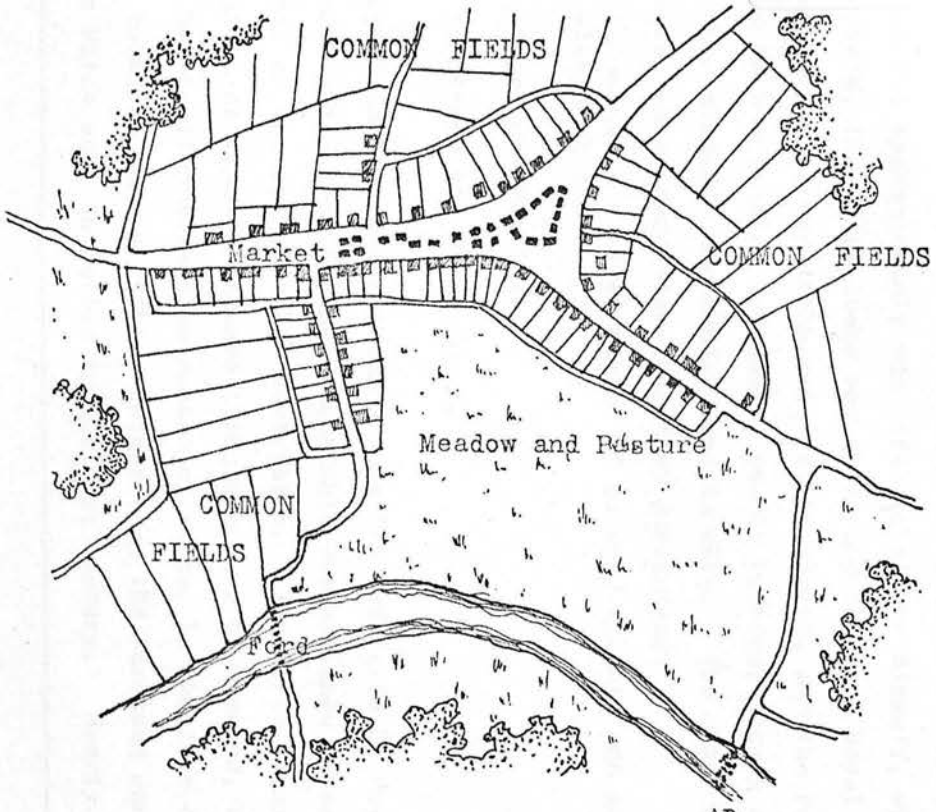
He (Ealdred) made as level as possible the dykes and cellars of the city for they were frequented as refuges by criminals from the surrounding woods. He segregated any unbroken bricks or stones which were found suitable for building and kept them for the fabric of the church. For he intended, if resources allowed, to build a new church and destroy the old one. So he dug deep to find stone structures ....

In the time of Abbot Eadmar while the excavators were exploring the walls at a low level, they turned up in the middle of the ancient city the foundations of a great palace. While they were amazed at its size they found in a hollow in a wall, like a cupboard, an unknown volume with other lesser books and rolls. It had hardly suffered at all from the long lapse of time. The script and language were too ancient to be understood, but it was beautiful and clearly written, with golden initials and titles. It had oak boards and silk ties which largely retained their original strength and beauty. After long and wide research they found a decrepit old priest, a man of learning called Unwona. He was skilled in scripts and languages and he could easily construe the book. He also explained the other manuscripts found in the same cupboard. It was the script which used to be written when Werlamnescestra (Verulamium) was inhabited. The language was ancient British with some Latin ....

In the first book he found the History of St. Alban, the Proto-martyr of the English, such as is recited every day in the church ... but in the other books he found the invocations and rites of the heathen citizens of Warlamcestra. From these he learnt that they especially worshipped Phoebus, the god of the sun ... and in the second place Mercury, called in English Woden, after whom the fourth day of the week is named ....

The books containing devilish matter was thrown away and burnt, and only the one containing the History of St. Alban was kept.

DIAGRAM 32



AD

Layout of the village of Hereford, 900 circa, which is typical of the market-agrarian type settlements of the time.

(Stewart C., Prospect of Cities, p.65)

3. "1066" - forts, constables and law

William of Normandy laid claim, through right of marriage, to the Crown of England; he invaded in 1066 and defeated that part of Harold's Saxon Army which had positioned itself near Hastings, whilst the remainder was still travelling from the north. Three years later, the indigenous Anglo-Saxon population, together with the now well-settled Danes, challenged William, but this rising was crushed with ferocious cruelty. William devastated and depopulated the land from the present-day site of York to Durham. Hereward the Wake continued the resistance, but was finally defeated at the Isle of Ely in 1070-71.(14)

All the land of England was claimed in the name of the throne, with William claiming approximately one fifth of it for himself, which meant certain forests, the chief towns and about one thousand Royal Manors. One quarter he registered in the name of the church, and the rest he distributed to his leading followers, mostly bishops, abbots and knights, numbering approximately one hundred and seventy. The grant of land to his retainers was on condition that they guaranteed;

(1) to maintain a fixed number of mounted knights and armed soldiers always at the ready,

(2) to pay certain dues,

(3) to attend the Royal Court.

He organized the construction of castles and forts by Royal licence only, in each shire, and a King's Constable was assigned to each fort to keep control of the surrounding countryside. The forts usually comprized a wooden palisade type of defence structure on a high mound, built by forced labour. The castles were constructed of stone, in the form of what is described today as random rubble, rather than the 'dressed sandstone' structures which were to follow in the next century. Nearly ninety castles

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(14)

Historical references for this section are taken from a number of sources, including R.J. Unstead's England, a History in Four Volumes. (Black 1962), Langer's Encyclopaedia of World History, and M. Price, A Portrait of Britain in the Middle Ages, of the series, The Oxford Introduction to British History, 1966, and City Fathers, Colin and Rose Bell, 1970.

The Bayeux Tapestry, 231 feet long and 20 inches wide, contains 72 scenes representing the Norman conquest of England, the story beginning with a prelude to Harold's visit to Bosham on his way to Normandy, and ending with the flight of the English Army at Hastings. Perhaps the best critical discussion of the tapestry can be found in the work of E.A. Freeman, Norman Conquest, Vol.III, pp.563-575, London 1875.

were built in the first generation after the conquest, and twenty new towns were 'planted', eighteen of which were attached to, or were an extension of, the castle; these are invariably described as "castle-towns", of which Hastings, Skipsea (Yorks), Richard's Castle (Hereford), Arundell, were the first. In some cases, such as at Launceston, Windsor, and Trematon, (Cornwall), the market town which existed before the conquest was moved to a position adjacent to the castle.

In Wales, the strategic castle towns, Brecon, Carmarthen, Haverford West, were followed immediately after by Denbigh, Caernarvon and Beaumaris, and soon became the town centres, with the whole commercial centre and civic parts attached to them.

For the most part, the Church was paying for the administration of the state, whilst the finances of the Royal Treasury were kept quite separate; these were financed from the King's feudal revenues, and his non-feudal revenues, (which comprised usually the tax collected for the former defence fund, the 'danegeld') judicial fines, and the charges on shire farms.

The repair and maintenance of the principal roads was the responsibility of the thegns, and it is recorded that people could travel the roads throughout the country with reasonable safety. Members of the town of London were granted a charter which guaranteed them the continuance of their local customs.

In 1086, William caused a national inventory to be taken - the Domesday Survey. It was prepared in order to list the wealth which existed throughout the country, and that which he could tax for his own revenue. The inventory covered all the land, its use, ownership, woodland, meadow, fishponds and mills. He died in the following year.

Under Henry I, (1100-1135), changes were made both in the accounting system and the administration; in this, he was greatly influenced by the new practices introduced into Lorraine in France. He expanded the Royal Court, and attracted more Norman immigrants to London. It is recorded as being a prosperous time, and more and more manor houses began to appear throughout the country, along with more 'castle towns'.

He invited the Cistercian monks to Britain.(15) They organized, and began the construction of a series of mill and road building programmes, extensive swamp reclamation projects, improvements in methods of agriculture and stock breeding, and in particular, improvement in wool raising.

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(15)

Cistercian Monks. Source: Byland Cartulary, translated from W. Dugdale, Monasticon Anglicanum, A History of the Abbies and other Monasteries, Hospitals, Frieries and Cathedral and Collegiate Churches, Vol.5., 1825, pp.349-354. Cistercian settlement at Byland, 1138-1177.
Other reference; J. Bilson, 'Architecture of the Cistercians', Archaeological Journal, Vol. 66, 1909.

From the time of Stephen, (1135-1154), the Barons began to build more castles, and to extend their territorial control by robbing and plundering their neighbours. The skill of building castles in properly dressed masonry and sandstone, following the technique used in France, and the Middle East, was gradually being introduced. It was a technique quite different from that used by William I in the construction of the Tower of London, and for the construction of some buildings in Colchester, Richmond, Chepstow and Pevensey which had been built to provide adequate fortresses to subdue the townsmen.

Henry II (1154-1189), having a need, or desire, to increase the wealth of his Royal treasury, began the practice of selling Royal Charters to towns on the Royal domain. Having begun this practice, he then systematically razed to the ground 'unlicensed' castles, and resumed ownership of lands which had been alienated from the Crown lands in the time of Stephen.

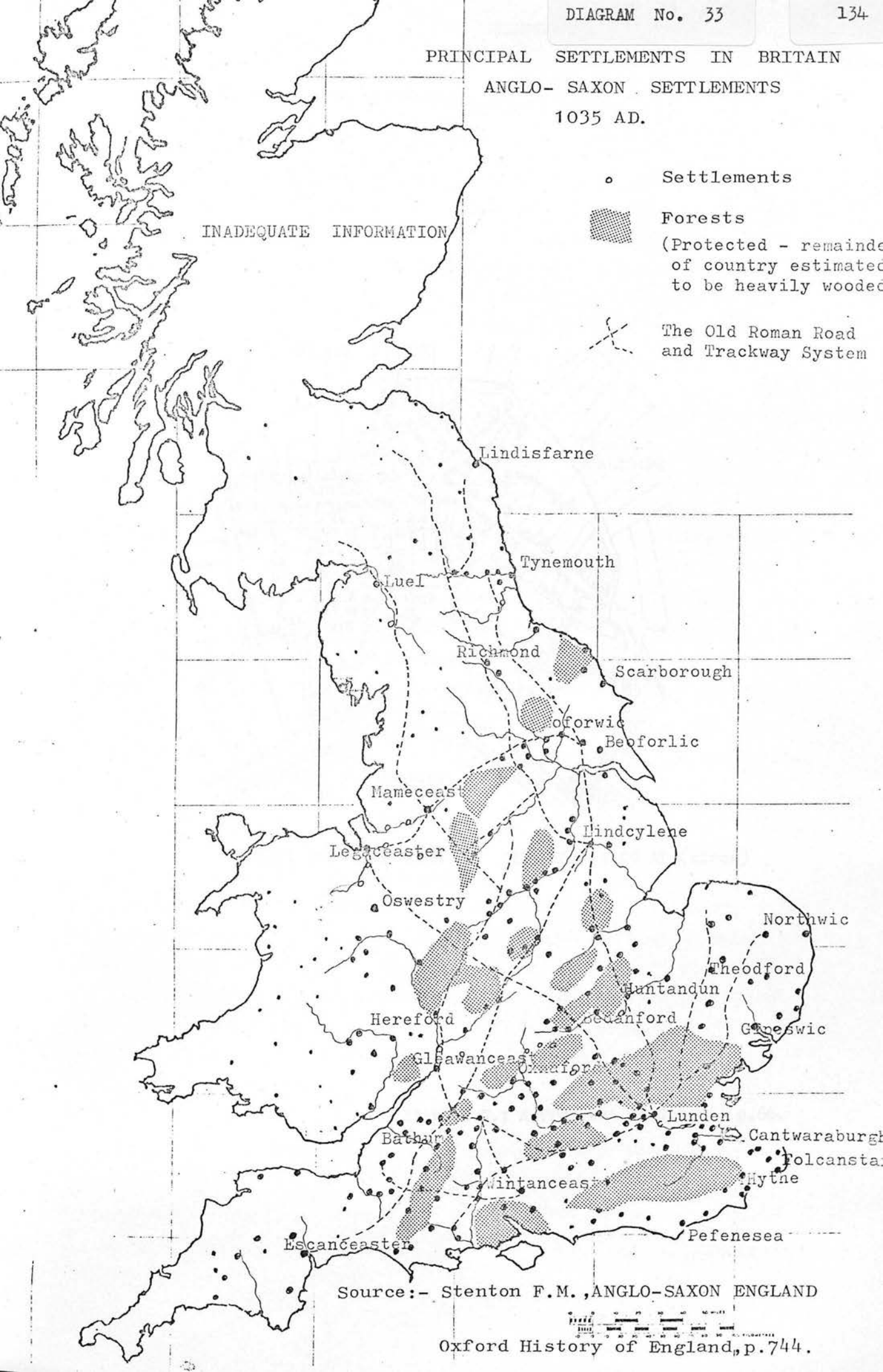
Both the Royal Exchequer and the Great Council were reconstituted. He re-organized the system of royal revenues, and by the 'Assize of Arms' (1181), made every freeman, according to his income, responsible for a proper share in the costs of the defence of the realm; new systems of levying taxes on personal property were introduced.

Domestic trade began to increase, and German merchants (very likely the founder-members of the Hanseatic League), and the Italian wool-buying merchants, became well-established in London; the first known 'merchant guild' was formed in 1088, at Burford, Oxon.

PRINCIPAL SETTLEMENTS IN BRITAIN

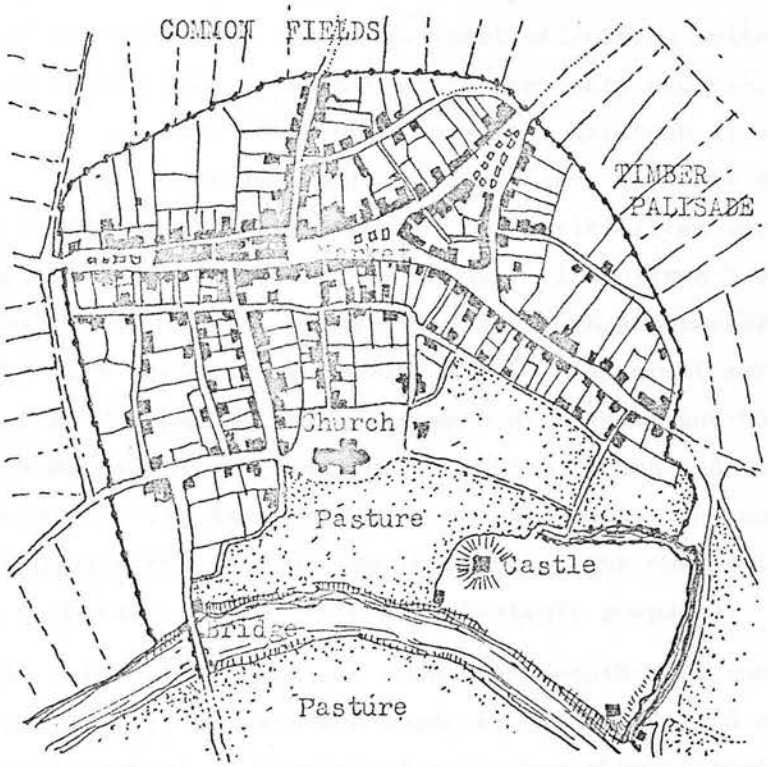
ANGLO- SAXON SETTLEMENTS

1035 AD.



Source:- Stenton F.M., ANGLO-SAXON ENGLAND

Oxford History of England, p.744.



LAYOUT OF THE TOWN OF HEREFORD 1100 AD (circa)

Steward C.; A Prospect of Cities, p.66.

Section 4. A Heritage of New Towns from the Plantagenets

New Town Building by the Plantagenets.

By 1297 there were well over one hundred and twenty new or 'planted' towns in existence in England and Wales, some small and some large. The shape, size and density of Norman town plantations had invariably reflected their function, and their function, economic or strategic, had been to satisfy the needs of their founders rather than to build for the welfare of the people. The founders of those new towns, whether the King, prelates, or his personal friends, were concerned about attracting suitable inhabitants; they were concerned with attracting merchants and craftsmen - the labourers, porters, beggars would come anyway. Although it was a feudal system, directives to the well-established citizens to leave their old-established allegiances and take over new responsibilities were not the accepted method for populating the new towns. Incentives had to be provided, and such incentives as capital grants, tax holidays and investment allowances all existed and were used in Norman times.(16) The great surge in town plantation came at the end of the civil wars of Stephen and Matilda; between 1110 and 1130 some twenty new towns were planted in England and Wales. Between 1150 and 1170 eighteen more were begun. After the wars, the towns in which the King was interested were those built for commercial enterprize and tax-gathering, rather than for strategic purposes.

During the reign of Richard and John, Portsmouth, Liverpool, Stratford-on-Avon, Barnet, Bawtry, Royston and Leeds were founded, and several more throughout Cambridgeshire. Cornwall finally had thirty-eight new towns planted in it, and many more in Devonshire. Baldock was founded by an Order of Knights Templars, who were granted the land in 1148. The importance of transport and accessibility for commercial expansion was well recognized in those days; the founders deliberately altered the alignment of the Great North Road to run through their marketplace. As a general rule, only those inducements which increased trade were offered, although in the case of the plantations by Edward I in Wales, he offered also ten years rent free incentives to those willing to build substantial houses in Beaumaris, Caernarvon, Harlech and Criccieth.

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(16) Sources of reference for this section are mostly from Professor Maurice Beresford, New Towns in the Middle Ages, Lutterworth Press, 1967, Colin and Rose Bell, City Fathers; The Early History of Town Planning in Britain, Cresset Press, 1969, and Professor Michael Flinn, An Economic and Social History of Britain, 1066 - 1939, MacMillan, 1961, and Hassell, How They Lived.

Edward I changed the emphasis of new town plantation from 'castle towns' derived from royal initiative and strategic siting, to commercial towns with all manner of private enterprize and private interest; the most significant examples are Battle, and King's Lynn, followed by St. Ives, St. Neots, Newborough, Boston and Dunstable, Watford and Boroughbridge. The only civic amenities provided by the proprietor of these new towns were the market place, the church, and in some cases, after 1193, a guild hall.

By 1189, the problem of fire had become so acute in the towns, because the houses were invariably made of wood, covered in straw, stubble, and the like, that an Ordinance was provided (and ordained) by the Assize, by which citizens might be encouraged to build with stone, "that every one might have a stone wall upon his own land sixteen feet in height, ... to the end that such houses may remain secure and protected against the violence of fire when it comes...."(17)

Water supply was usually provided from wells, but in the larger towns, aqueducts and water pipes were being constructed, mostly by the Friars.(18) Records are still available of "the course of passage of the Aqueduct of the Friars-Minor at London", from Newgate.

English towns were not regarded as being civilized or hygienic by travellers from France at that time. There was no street lighting, and a virtual curfew forbade people to walk the streets after 10 p.m.(19) Light for the houses was provided by candles and oil lamps.

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(17) Source: Bede, Ecclesiastical History, translated by J.A. Giles, 1881, p.80.

(18) Source: Register of the London Grey Friars, extract translated Sir W. Dugdale, Monasticon Anglicannum, a History of the Abbies and other Monasteries, Hospitals, Friaries and Cathedral and Collegiate Churches, ed. J. Caley, H. Ellis and Rev. Bulkeley Bandinel, Vol. 6. pt.3. 1830, pp.1518-9:-

" A map of the water pipes at Christchurch, Canterbury (c.1167) and of the Charterhouse, just outside Newgate, London, fifteenth century, still survive. Here is an account of the pipes of the Grey Friars, who were established in 1224 just inside Newgate in a place hitherto used by butchers for slaughtering beasts; this unpleasant urban site, typical for a house of Friars, contrasts with the rural sites by rivers favoured by monks in previous centuries."

(19) Source: The Jew's advice to the Christian French boy, in Richard of Devizes; Chronicles of the Crusades, Bohn's Antiquarian Library, 1865. pp. 49-51.

English towns, 1192.

By the time that Edward I called his Parliament together at Bury St. Edmunds, new town planning and construction was an accepted activity of King and Government, even for the reconstruction of war-damaged towns. In 1295 he had stormed the town of Berwick-on-Tweed and received the surrender from the King of the Scots. At the end of the Parliament in 1297, he called together selected men who were already experienced in town planning and administration, among them, the two leading merchants, Alard and le Waleys, to plan a new layout and fortifications.

Their task was to set out the new town of Berwick, which would imitate the best and most successful towns in the kingdom, drawing on the past experience of Northampton, Lincoln, Stamford, Bristol, Leicester, Southampton and Yarmouth. For the most part, the town planners of the day were successful men of business, and were expected to know what was needed 'to make a town almost anew to the greatest profit of Ourselves and of merchants'. This was the objective of Edward I in 'planting' new towns; it was in an era of increasing population, and was seen as a means of expanding the economy and the wealth of the Crown.

Edward I, "rex et bastidor", gave new town planning and construction a considerable boost in England and Wales. He was prompted to plant new towns to encourage the merchants to stimulate the economy of the country, from which the King's revenue could be increased, especially by the tolls and levies on the flow of merchandise, and from rentals from the land. The merchants were given the incentives to enlarge their market, their business and their cash flow. New Winchelsea can be taken as an example; it was to be for a community of merchants, who could acquire (actually, purchase) a charter from the King to trade; generous provision had been made in the layout for the Church and monastic houses, working places and warehouses, the quay, and the cellars beneath the new houses and the market place. The fishermen, who could land their catch only at a chartered town, had to pay duty to land their catch, and for some years, the toll on fish formed about one third of the royal revenue from the town.(20)

Reference to / Diagram No. 21 shows the rate at which population was increasing in the thirteenth and fourteenth centuries. It was obviously noticeable to the establishment of the time; there was a natural organic growth of the villages, and many villages were being transformed into boroughs. Much of

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(20) Beresford, Prof. M., op.cit., see also Diagram No. 21, p. 114 of this thesis showing increase in population at the time.

this was being initiated by the Church and the abbots. The population of the country was estimated to have increased from approximately 1,250,000 at the Domesday Survey to well over 3,500,000[21] by the time Edward I held his town planning colloquium at Harwich in 1297, at which twenty-four advisers were called together to replan Berwick. ⊗

As the population of the villages increased in number, so the problems of water-supply, sanitation and hygiene and fire protection became more complex. Compared with the generally accepted size of cities and towns today, medieval towns were small. Of the one and a quarter million inhabitants in England during the reign of William I, approximately 20,000 were resident in London. Of the other towns and cities, only York, Norwich and Lincoln had one thousand houses, a population of perhaps 4,000. Oxford and Thetford were the only other towns approaching that number. By the end of the thirteenth century, there were nearly two hundred cities and boroughs in England, of which the King was the Lord of about half, while the others were under the jurisdiction of lesser lords.[22]

The towns were rapidly becoming centres where specialized arts, skills, and crafts were being carried out, both in the increasing number of workshops in the towns, and by the craft-market. Prosperity, emerging from the wool trade, was increasing; more sophistication in both quality and quantity of town-made products was being demanded. This quickly led to a local or regional specialization of production.

The professional merchants and craftsmen knew only too well that they were better placed in towns than the sparse rural area for promoting their own calling; they could see the advantage of encouraging the growth of towns.

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(21) Estimates by different authorities of population for Britain in the 14th century differ, and range between 4 million to 7 million.

(22) The general character of medieval urbanism at the time has been expounded upon in the Cambridge Economic History of Europe, (chapters I and IV, edited by M. Postan, E. Rich and E. Miller); Professor Carus-Wilson has elaborated upon the connection between the towns and trade, in Medieval England, (edited by A.L. Poole, pp. 209-263, 1958.)

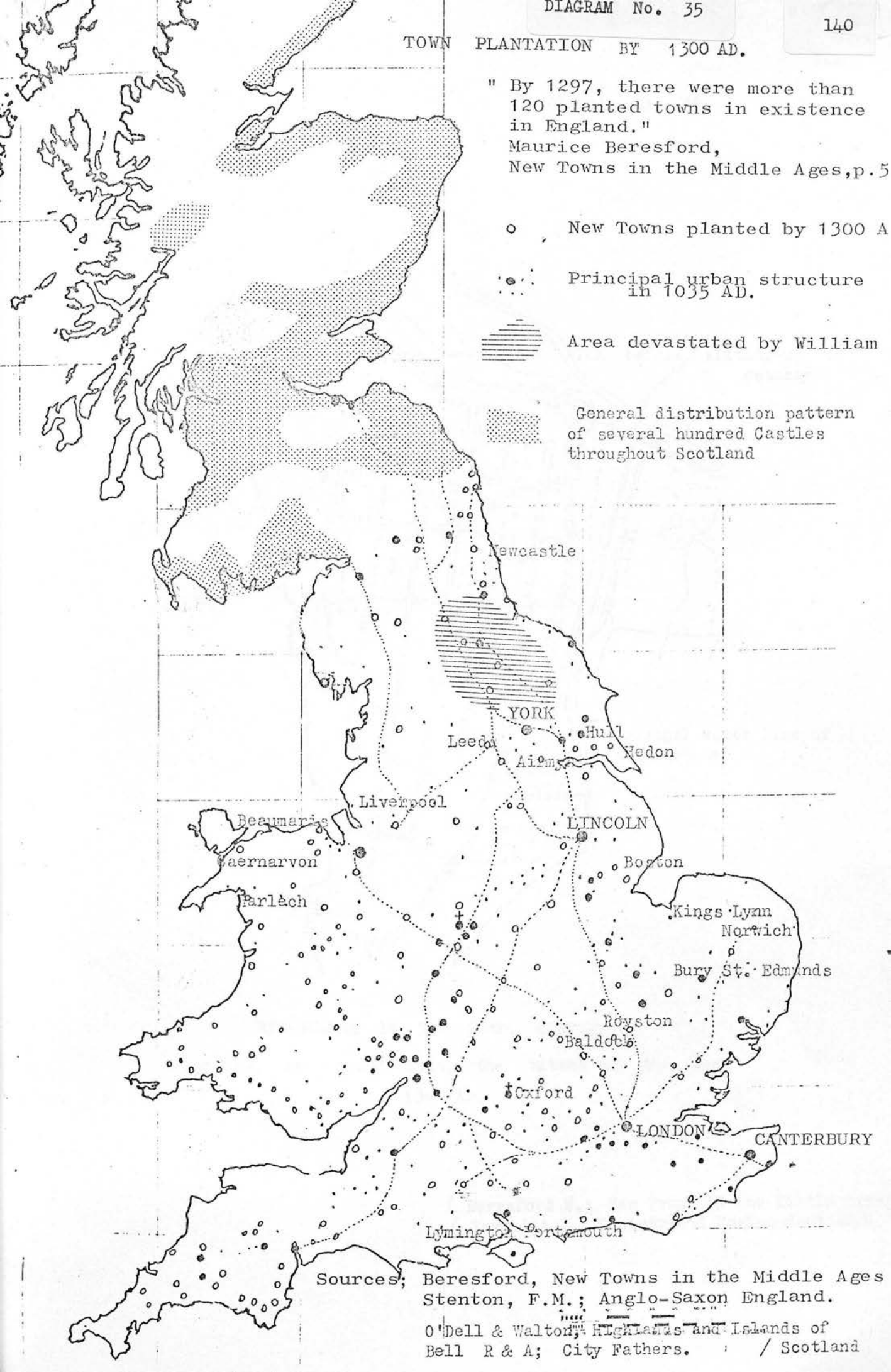
Other valuable references: Postan, M.M. The Chronology of Labour Services, R.H. Soc., 4th Ser. XX, 1937, pp. 169-194.

Carus Wilson, E.M., Industrial Revolution of the 13th century, Econ. Historical Review, XI, 1941, p.232.

⊗ op. cit., Beresford.

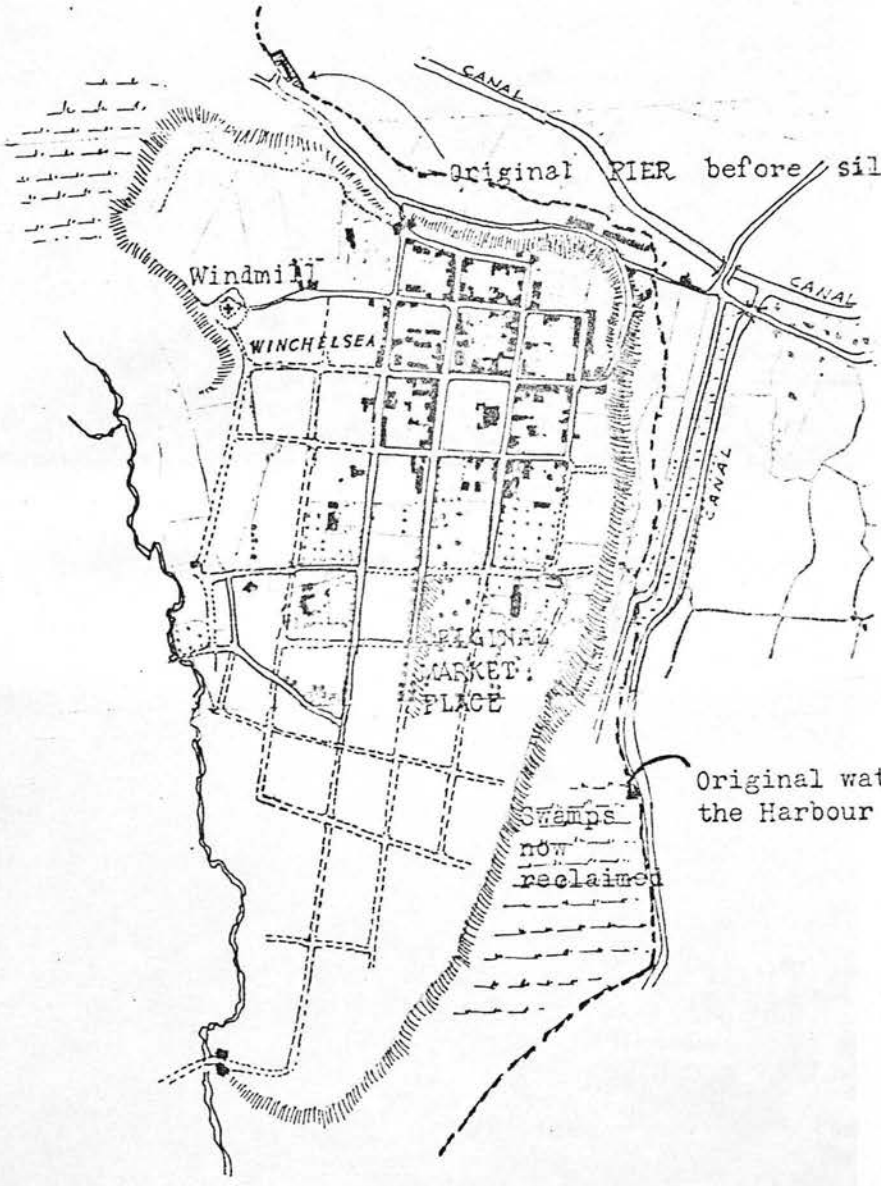
TOWN PLANTATION BY 1300 AD.

" By 1297, there were more than 120 planted towns in existence in England."
Maurice Beresford,
New Towns in the Middle Ages, p.5



Sources; Beresford, New Towns in the Middle Ages
Stenton, F.M.; Anglo-Saxon England.
O'Dell & Walton; Highlands and Islands of Scotland
Bell R & A; City Fathers.

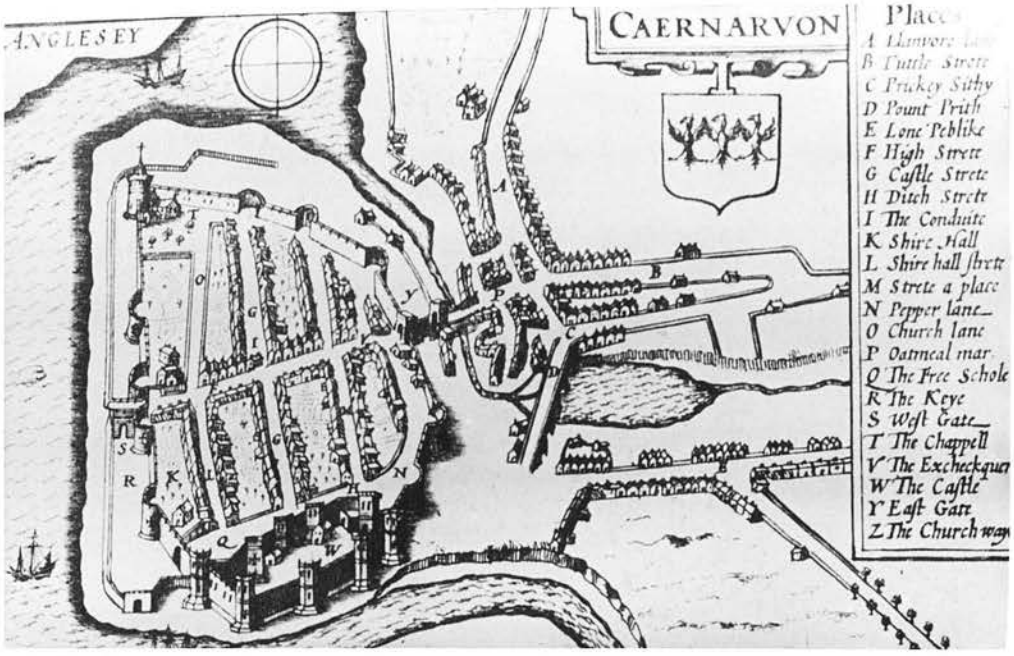
DIAGRAM No. 36



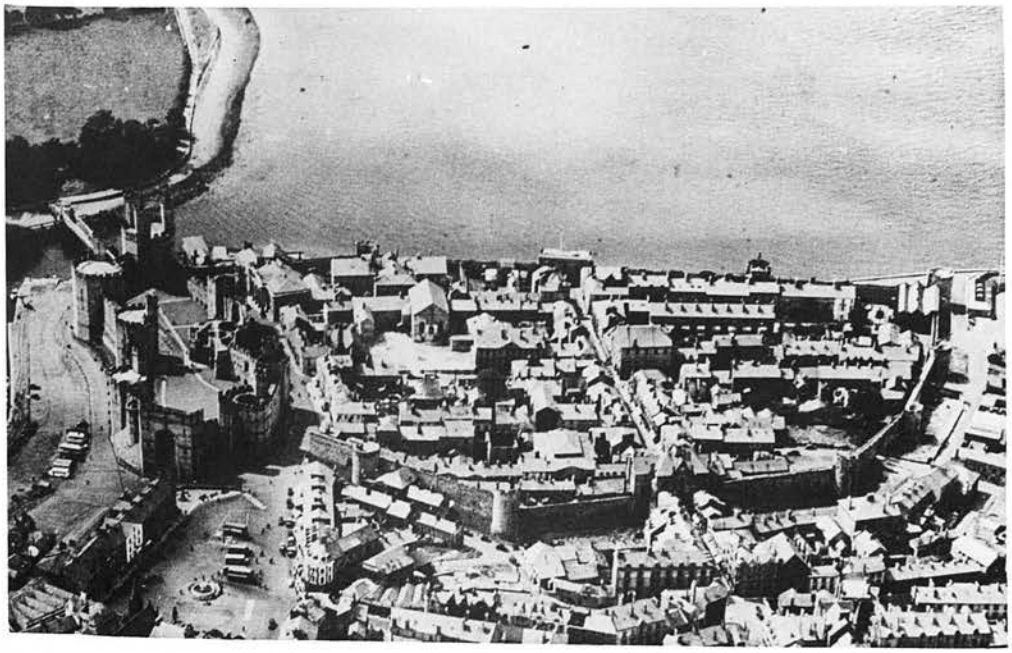
WINCHELSEA IN THE 20th. CENTURY

showing, in dotted line, the extent of the town c. 1300 AD.

(Beresford M.; New Towns IN The Middle Age
(Trywhitt J.; Society and Environment, APR



CAERNARVON IN THE 14 th. CENTURY



CAERNARVON IN THE 20 th. CENTURY

Bell C. & R.; CITY FATHERS,
Pelican, pp. 41 & 43.

If the town was a port, the possibility of entering into the international market was enhanced. It was in the towns, also, that the lords of the Manor, the 'seigneurs', could sell the produce from their land, find eager and more prosperous buyers than in the small market place of the rural villages.

The road system throughout the country was still very much that which had been inherited from the Romans, and the trackways across the chalk belt, which the Romans inherited from earlier times. Under the Saxons, the repair of bridges was an obligation laid upon every free tenant of land. In the manor court rolls of the later thirteenth century, there are frequent references to roads being damaged by neglect to neighbouring ditches, or of people using them as quarries. From time to time, the Close Rolls or Patent Rolls record royal orders for the repair of some of the more important roads. Medieval highways are thought to have carried as much as a thousand tons a year. In 1332, the journey between Oxford and Newcastle is recorded as taking nine to ten days.(23) Highway robbery was common at the time, as recorded in the time of Henry I.

2. Towns, Gilds and Markets, in Medieval Times.

The period from 1300 to 1500 coincided with rapid economic expansion, (mostly because of the wool trade), the accumulation of wealth in the hands of a few, social tension, (which manifested itself in the 'Peasants Revolt' in 1381), further advances in the development of the parliamentary system, and a new phase in the growth of small urban centres throughout the country.(24)

By the end of the period, the urban structure of the country, and the system of town management had evolved which was to prevail for a further three and a half centuries. Some of the remains of these towns can be seen to this day throughout Britain as a vivid reminder of the way of life of the time.

The Black Death, which raged over the years 1348 - 49 nearly halved the population, which was estimated to have been nearing four millions at the time. When the plague broke out, the war with France, later to be known

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(23) Price, M.R. Portrait of the Middle Ages, Oxford Introduction to British History, 1966.

(24) The sources of references for this section are mostly from Trevelyan, G.M., Illustrated English Social History, (Longmans Green 1944, Penguin 1966), Professor Michael Flinn, An Economic and Social History of Britain, 1066-1939, MacMillan, 1961, Price, M.R. Portrait of Britain in the Middle Ages, 1066-1485, Oxford Introduction to British History, 1966, Unstead, R.J., England, the Medieval Scene, (Black, 1962), Langer, W.C., Encyclopaedia of World History, and several other more general references.

as the Hundred Years' War, was already in its eleventh year. Men, stores, food, cloth, armour, ships, horses, were all needed for the King's army; trade increased measurably, much to the profit of the barons and the nobles, from whose estates the supplies were provided.

It was at this time that many of the Flemish weavers, in order to escape French rule, migrated to settle in Norfolk and Suffolk, some to the 'west country' and some to the north. The wool and cloth trade then began to increase; weaving flourished in the Cotswolds, Yorkshire Dales and Cumberland, laying the foundations for a new agrarian settlement pattern. By the end of the fifteenth century, England was both satisfying its own need for cloth, and exporting ample, in particular to Italy, and to the continent in general. For the most part, it was a cottage industry, with the middle-men collecting for the merchants, who were based in Norwich, Kendal, Gloucester, and Bristol..

The Flemish weavers also brought with them to England the skill and technique of brick-making. This, in addition to the prosperity and wealth which was then prevalent among the barons and more wealthy peasants, caused a new concept in house design to evolve. Farm-houses and cottages were constructed in stone and brick, divided into several rooms, with fireplaces and chimneys, with roofs of slate or thatch.

The country house began to appear, in which, instead of the 'Great Hall', with service rooms at one end and private rooms at the other, a differentiation of space and areas was provided for dining, sleeping, social life, parlours and service areas. The early examples were not built on the basis of corridor access; this was to emerge in Tudor times.

The wealthy peasants lived in highly developed farms, with the brick or stone built storage sheds and barns forming an enclosure or court with the house. In the towns, because of the narrow plot frontages, a compact two or three-storey town house evolved in which the standards of comfort were measurably raised.

Customs and constitutions varied from town to town, and in each, the exact working and the date of the charter which it obtained from its lord was important, as well as the circumstances of its origin and growth. Each had its own laws, and by-laws.(25)

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(25) The word 'by-law' is derived from 'by', a word meaning 'town', in Danish. It constituted the last syllable of the names of many towns, such as Rugby and Selby in that part of England which had been controlled by the Danes.

In the fourteenth century, the demand for more wool meant a demand for more grazing land, and systematically, all the common land, previously available for agriculture and subsistence farming for the villagers, was 'enclosed' by the Lord of the Manor for the grazing of sheep. Less land was coming under agricultural production, fewer men were needed for ploughing and working the land; villeins sold their right to the land they had been working, resulting in less employment being available in agriculture.

The unemployed moved to the towns. The rural to urban shift of population became noticable, but in this century, although the economy of the towns was expanding interdependently with that of the rural hinterland, there was little work available in the towns for the rural in-migrants; they had simply shifted their poverty and unemployment status from the rural areas to the towns. From this time on emerged sturdy bands of rogues and beggars, who became more numerous with time, and for whom, more than two hundred years later, the 'Poor Laws' were introduced.

The expanding old-established towns with their oligarchic structure, although providing some employment, gave less encouragement to the newcomers, than did the new villages. It was considered at the time that there was ample space near the margins of cultivation for these new settlements to be sited, and so absorb, what appeared to be the surplus population.

An interdependent rural-urban economic expansion began to emerge, with the realisation that reciprocity brought benefit and prosperity to those involved. The artisans of the towns could not have existed without the supply of raw materials from the forests, the quarries, the mines, and the grazing herds of the countryside; the metal-workers, wood-workers, masons, tanners and weavers needed more food than the town's fields could supply. The town's craftsmen produced goods which tempted both the lords of the manors and the peasants alike to increase their agricultural production, and put their surplus into the town market. It was in the towns that the money was accumulating, and loans could be obtained.

One of the greatest assets which a town could gain in the fourteenth century was the permission of the King to hold a market; it could be gained, but at the correct price. The King held absolute power over trade and marketing, and it can be appreciated that by now a strong competitive spirit was growing between neighbouring towns for holding a market. Markets were held once a week, and were strictly regulated by the Town's Sergeant, who also checked the 'weights and measures', which had now been introduced statutorily.

Some of the larger towns were permitted to have a 'Great Fair', in addition to their weekly market. Traders and merchants from all over England, and often foreign merchants, bought and sold goods. These fairs were usually held at Michaelmas, after the harvest, and provided a means of balancing foreign trade and payments, and permitted a regularized method for selling imported goods, such as wines, tapestries, linen, etc., and for expanding the local market for corn and wool, for export.

Merchants usually came from Germany, Venice, Genoa and Milan, and the money-lenders from Florence and Lombardy. The Merchants of Venice were still the link for trade with the wealthy East.

These fairs only tended to show the value of having larger towns, where more people could collect in one place for trade, individual enterprise, preaching and recreation. As Edward III was perpetually in need of more money, he permitted more and more towns to buy their freedom, and purchase a Royal Charter, which endowed boroughs with the right to collect and remit the Royal taxes directly.

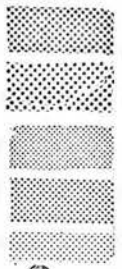
The Charters also conveyed the right to have a Guild of Merchants; the right to hold court for legal business, (or settle disputes between traders in the borough), the right to levy tolls on goods sold, or to collect stallage, (rents from the stalls in the market place); they also gave a guarantee of the personal freedom of the citizens of that borough.

Needless to say, it was usually the wealthy merchants who could raise the sums necessary to purchase such a Charter, and they claimed the right to participate in the government of the new borough, making a direct link between the Gild Merchants and the Borough Council (an association which persisted through the centuries.)

PRINCIPAL SETTLEMENTS IN BRITAIN

1400 AD (circa)

Density of population in 1377 AD by Poll Tax Returns



over 40 persons/sq.mile
30-40 " "
20-30 " "
10-20 " "
less than 10 " "

Towns of 20,000 populatio
" 5,000 "
" 1,000 "

Main cloth producing areas in the 14 th.cent.

Same Information as on DIAGRAM No. 35, p140

Newcastle
Carlisle
Scarborough
York
Beverley
Hull
Lincoln
Norwich
Shrewsbury
Leicester
Ludlow
Coventry
Bury St. Edmunds
Hereford
Oxford
Bristol
London
Salisbury
Winchester
Plymouth

Source: Flinn, M.W.; Economic and Social History of Britain, pp.21 & 37

CHAPTER 5. NATIONHOOD FOR BRITAIN - POVERTY IN THE TOWNS

1. Poverty in the Towns as Britain emerges as a Nation

Henry VIII came to the throne at a time when Catholic Europe had expelled the Moors from Spain, when the Venetian trading empire was expanding and with it, a new concept of town planning and building was appearing throughout the Mediterranean[26]; when voyages of discovery were revealing new lands, and the fact that the world could be circumnavigated; and at a time when scholars such as Martin Luther, and Erasmus, were publicly reviewing the religious philosophy and authority of the Pope, and taking up once again the humanist philosophy of Petrarch.

The Tudor, Stuart and Commonwealth periods of British history (circa 1500-1700), are regarded as the 'formative years' of modern Britain by G.M. Trevelyan; he identified 1559-60 as the first years of modern Britain in which peace with Scotland and France was purchased by the reluctant cession of Calais in April 1559, and when the Acts of Supremacy and Uniformity were restored. French troops were besieged at Leith, and were finally driven out of Scotland; by the Treaty of Edinburgh, 1560, French interference in Scotland was ended.[27]

There was obviously a need for more enterprise, expansion of the economy, and this could not be done with the almost stagnant system of the parochial guild merchants which had prevailed for the previous 400 years.

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(26) See also Section 5 of this Chapter; London devastation - recognizing the need for town planning.

The work and publication of Alberti (1404-1472), 'De Re Aedificatoria', in Italy was already laying the foundations for the return to classical architecture. The expansion of the Venetian empire on to the mainland meant a wider sphere of influence, but also, a new type of town planning and construction, one for defence and withstanding siege; the publication of Vitruvius, 1511, De Architectura Libri Decem, was to greatly influence town planning and building for London within the next century. The search for the planning technique for the ideal city was already vogue; Scammozi, 1552-1589, with his 'L'Idea della Architectura Universale' is one example: his concept was based on the Venetian walled town of Nicosia, Cyprus, laid out in 1567.

(27) References for this section are mostly from Professor M.W. Flinn, Economic and Social History of Britain, and G.M. Trevelyan, Illustrated English Social History, and Sir John Clapham, Concise Economic History of Britain from Earliest Times to 1750, Book III, Cam. U.P., 1963.

In the first 25 years of the operation of the London Merchant Adventurers Company the export trade expanded immensely, and by the mid-sixteenth century, a struggle had begun between the north German Hanseatic League of traders and the London Merchants, for the control of European markets.

The Gilds were no longer playing a significant role in assisting the poor in the towns; the former gild merchants were now mostly the Borough Councillors, and were concerned more with safeguarding their own vested interests in the town, than in the welfare of others. The older industries, such as wool spinning and weaving, and the new industries which were emerging as a result of the increased trading activity, were establishing themselves outside the towns, i.e., out of the reach of the jurisdiction of the town council.

The number of poor people in the towns was increasing noticeably, and whereas previously the gilds had taken care of the poor families among their own numbers, this custom had died out. For deserving cases, the monarch gave a licence to beg, but for the vagabonds, such measures as whipping, and branding, were introduced. For sturdy men, who begged but would not work there was little sympathy - they often turned to organized crime against society - teaching children to be pick-pockets and 'cut-purses'. A 'Book on Beggars' was published by Harman in 1567, in which he showed how many pretenders and confidence tricksters were using begging as a source of income at this time.

For the most part, the poor found their way to London, where they hoped to find some form of employment. An Act of Parliament in 1572 ordered Justices of the Peace in each county to appoint Overseers of the Poor in every Parish; these overseers were to be charged with the administration of poor relief in their parishes. A compulsory rate was levied on citizens to contribute towards helping the poor; the rate was decided locally and was sometimes used for almshouses, but mostly for weekly pensions or gifts of coal, food, shoes and clothing. Some parishes set up 'Houses of Correction', others, work-houses, and others apprentised orphans to craftsmen.

The Act of 1597, the 'Poor Law', (amended in 1601 by Elisabeth I), required each parish in England to provide adequately for its own unemployed, sick, aged and orphaned. There was a concerted effort on the part of Elisabeth to establish education on a wider basis throughout the country. Schools were founded at Westminster, Rugby and Harrow, and the Borough Corporation of Edinburgh founded the University in 1567.

The Elisabethan Poor Law ordered that the towns should provide a "stock of wool, hemp, flax, iron, or other stuff" and should set the poor to work. The work was paid for at market rates, a small sum being deducted for their lodging in work-houses. Sometimes the manager of a workhouse taught trades to children and city authorities sometimes bargained with clothiers to find work for the unemployed. No such order was made, nor could be made, for the rural areas; there was no organized nucleus of society which could implement such an order; the shift of rural population to urban areas and towns was increasing.

Alms-houses were established by Christian men who wanted to help the aged and infirm. For example, Sir John Hawkins privately contributed a hospital for the aged and infirm mariners at Chatham; the merchant tailor, Thomas Roe, Mayor of London, gave land for, and built, the Christ's Hospital for craftsmen, the Bluecoat School, and for the insane, Bethelem, (Bedlam).

In 1662, an Act of Settlement was passed which provided for each person to be settled in a parish, and only from that parish were they entitled to relief. This also had its short-comings in an expanding economy, for mobility of labour was essential, yet loss of settlement entailed grave risks; this prevailed until 1795.

2. Escape from the Towns - urban comforts in the rural areas.

For those who could be independent of the towns, an alternative form of habitat began to evolve, that of the self-sufficient Tudor country house. The exchange of knowledge with merchants and others from the continent, the advances in building techniques, the use of brick, stone and timber, the introduction of fireplaces and chimneys, the use of glass for windows, and the wish to be independent of the oligarchy of the towns and the merchant gilds, all contributed to the emergence of new estates throughout the rural areas, and changes in the structure of country houses.(28)

The lofty, raftered hall, the essential feature of the country house from Saxon to Elisabethan times, was changing to the concept of single-storey rooms and chambers, each with a specific social or utilitarian function. The courtyard in the centre of the older type of manor-house, where so much of the life of the establishment went on, was no longer planned in the middle, but to the rear of the house, more for purposes of utility. Classical type moulding from Roman times and the Italian Renaissance began to appear on the cornices, and the stairways and balustrades were ornately and elaborately

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(28) Source of reference for this section is mostly from G.M. Trevelyan, English Social History.

carved; wall panelling was used in place of tapestries and wall paintings. Paintings from Holland, marble busts and sculptures, Roman in character, began to appear in the main halls; carpets and matting took the place of rushes, as it became recognized that the latter often held the fleas which heightened the risk of the plague. The trestle table was giving place to the solid table with ornamental legs; bedsteads were also ornately carved; gardens were planned for both pleasure and for the kitchen.

Towards the end of the seventeenth century, war and taxation hastened a change, but basically, the creation of great estates out of small ones was a natural economic process, analogous to the absorption of small businesses, by large, in the corporate business world of today.

Once agriculture came to be regarded as a means of producing national wealth, and no longer as a means of maintaining a given state of society, the change was inevitable. Capital in the hands of the acquisitive large land-owners, and their devotion to the business and profit of land-owning, were pre-conditions for the 'agricultural revolution' that followed in the eighteenth century, when new agricultural methods and wholesale enclosure were introduced, such as crop rotation, proper feeding of stock in the winter, roots and clover, storage of water and the like.

PRINCIPAL SETTLEMENTS IN BRITAIN

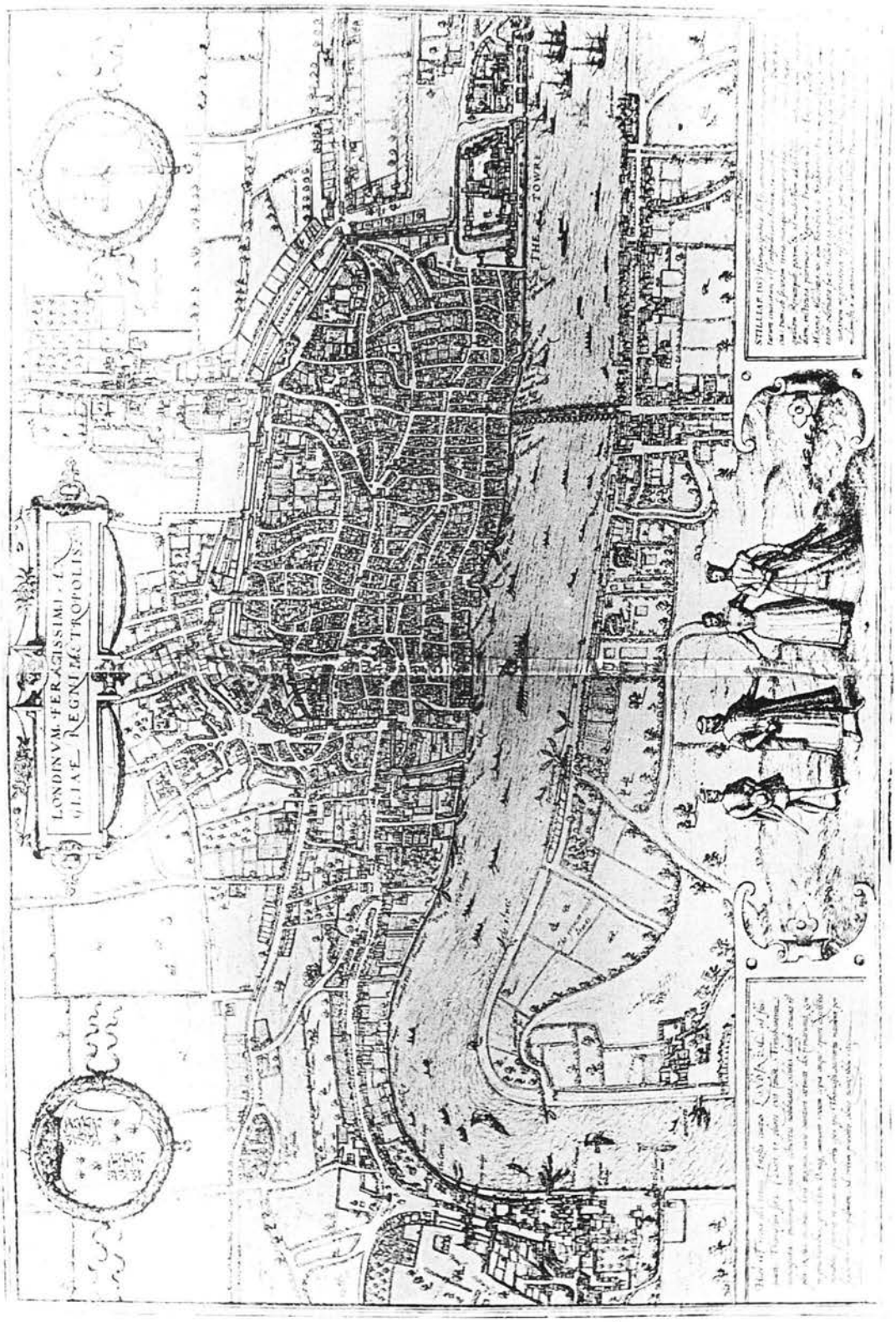
1500 AD (circa)

Based mainly on the Wool-te
Industry

Source: Flinn M.W.; Economic and Social History of Britain, p.2.

Inventories of Royal Commissions

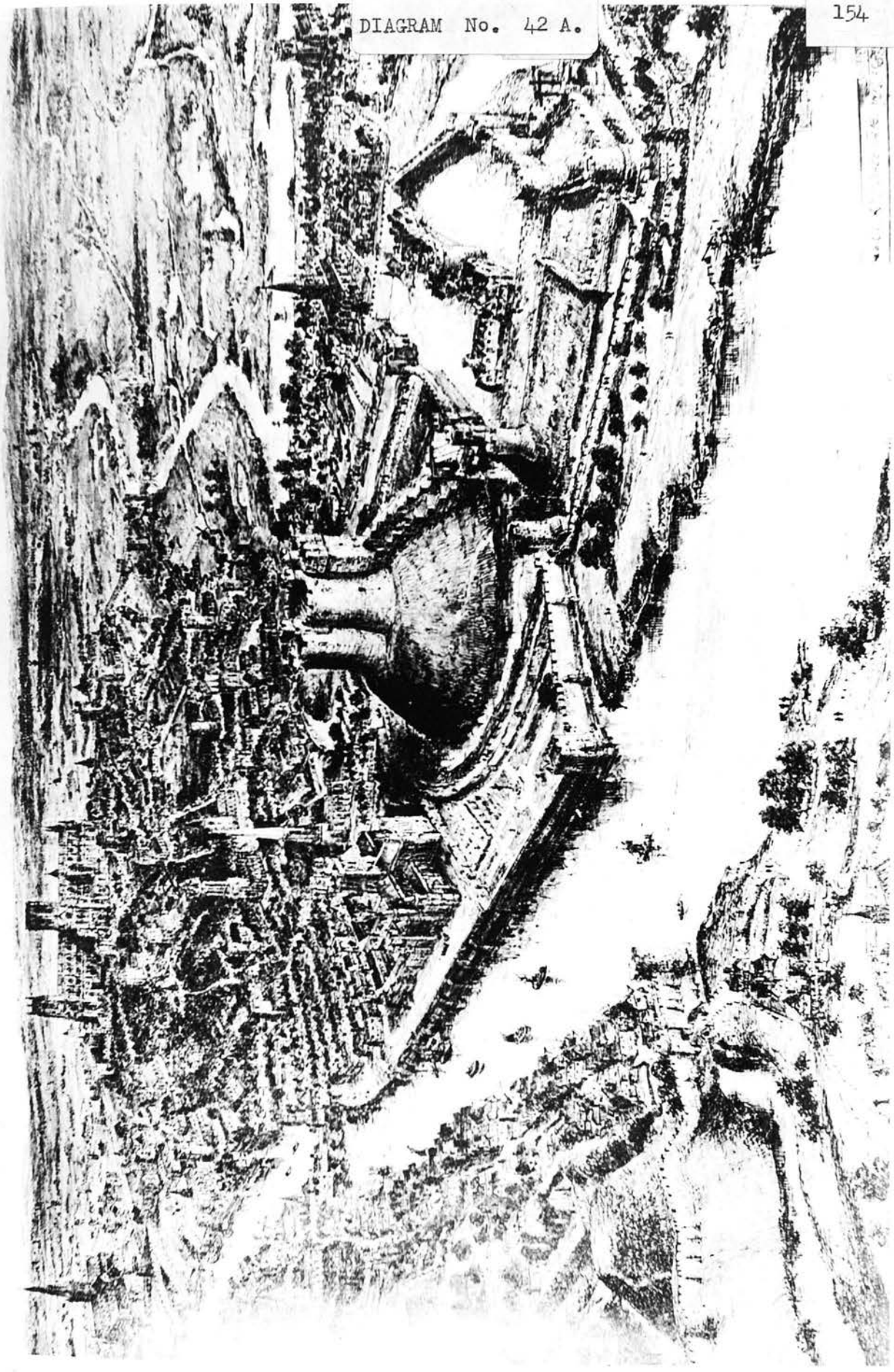
DIAGRAM No. 41



LAYOUT OF LONDON IN THE 16TH. CENTURY

From "Civitates orbis terrarum", G. Braun & F. Hohenberg, Cologne, 1577 - 88; copy in Cambridge University Library.

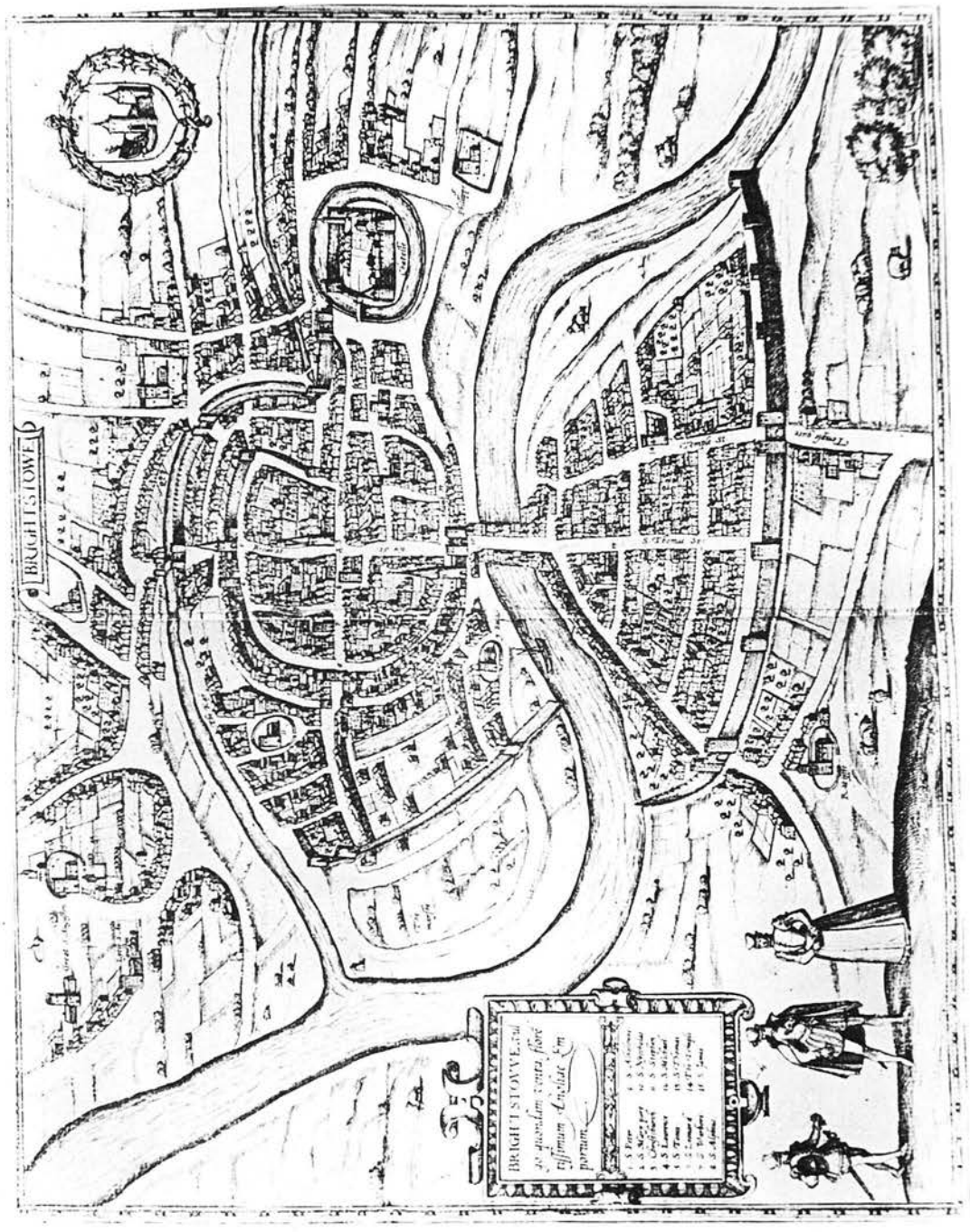
DIAGRAM No. 42 A.



YORK IN THE 15th. CENTURY

Impression by Ridsdale Tate, 1914.

DIAGRAM No. 42B



BRISTOL IN THE 16th. CENTURY

op. cit., Braun & Hohenberg.

Section 3. New Towns in Northern Ireland to take London overspill.

'23 New Towns for Northern Ireland - 1608.'

As early as 1542, the Government and London merchants had examined the problem of the over-concentration of people in London, and the benefits which might be derived from new town plantations in Ulster.

"If multitudes of men were employed, proportionately to those commodities which might be there by industry attained, many thousands would be set on work, to the great service of the King, strength of his realm, advancement of several trades and benefit of particular persons, whom the infinite increasing greatness, (that often doth minister occasion of ruin to itself) of this city, might not only conveniently spare, but also reap a singular commodity, by easing themselves of an in-sufferable burden, which so surchargeth all parts of the city, that one tradesman can scarce live by another; which in all probability, would be a means also and preserve the city from infection, and by consequence the whole kingdom, which of necessity, must have recourse thither, which persons pestered or close up together can neither otherwise, or very hardly avoid."(29)

It is apparent that London was considered to be over-populated, and that the new towns which would be erected in Ulster by the City Companies were expected to take some of the population, which even then was considered in the term we use today, "London overspill".

A Warrant was issued by the King granting power to form a new Commission with powers to pass the land to the undertakers. Sir Arthur Chichester, the Lord Deputy from Dublin, called for instructions on the way in which the commission should proceed;

"for the better erecting and peopling of corporate and market towns in the Province of Ulster, we think it fit that the Commissioners set down how many places or sites of houses they think fit to be erected for the present in every town, and assign how much and what land shall serve for further erection in future time."

He had a survey carried out and made the proposal to the King and Council in 1608 for the 'Plantation and settlement of the escheated lands in Ulster.'

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(29) Reference for this section is taken from Camblin, G., The Towns in Ulster, Mullah, 1951, and Professor Maxwell, 'A Concise view of the Origin, Constitution and Proceedings of the Honourable Society of the Governor and assistants of London of the new Plantation in Ulster, within the realm of Ireland', 1842.

A Committee was appointed to prepare the planning scheme. They took the view that the lands could support a greatly increased population if the resources were properly exploited, and an effort made to settle the population in towns and villages. Proportions of land were to be granted to undertakers, subject to certain conditions as to building and the letting of lands to tenants. Every portion was to be made a parish, each with a church of its own.

The principle of community grouping was adopted; whether for economic reasons, for administration, for attaining social cohesion, or for defence, is not spelled out in the text of the documents, which were later compiled in 1747 and contained in a volume, 'Hibernica' by W. Harris. Each undertaker was required to take certain precautions against rebellion, and to build houses for his British tenants, or to ensure that they built houses for themselves. The dwellings were to be grouped in such a way that they would constitute a village on the estate of every undertaker.

Twenty-three new towns were planned and constructed in this way; they were to be given the right to have fairs, markets, and other liberties, such as sending members to Parliament. Provision was made for three groups of undertakers; ⊗

(1) English and Scottish settlers,

(2) existing servitors in Ireland,

(3) native Irish.

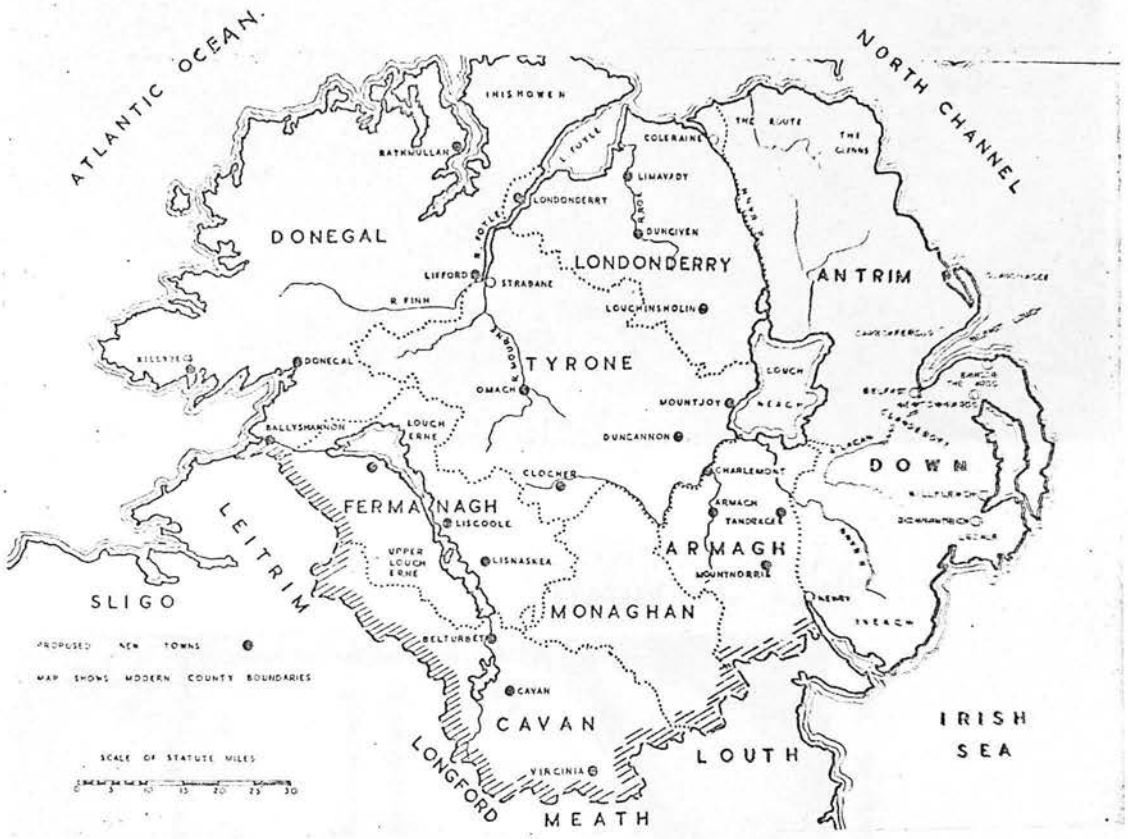
In January 1610, articles of agreement were signed by the representatives of the Privy Council and a Committee of the Companies of the City of London, whereby the Companies undertook to carry out the provisions of the plan in respect of the County of Coleraine and parts of Donegal and Tyrone.

Three hundred years later, these towns comprize the principal urban structure throughout Ulster, and are still dependent upon an agrarian economy, [redacted]. It would appear that the agrarian use of the land has reached its [redacted] optimum population supporting capacity; ⊡ population in excess migrate, usually to Belfast, in the first instance, in search of employment, and if it is not obtainable there, then to Britain or other Commonwealth countries, or to non-commonwealth countries.

⊗ op. cit., Camblin.

⊡ Personal observation during a visit in 1948.

DIAGRAM No. 43



LOCATION MAP OF THE NEW TOWN PLANTATIONS IN ULSTER - 17th. cent.

(Camblin G., New Towns of Ulster

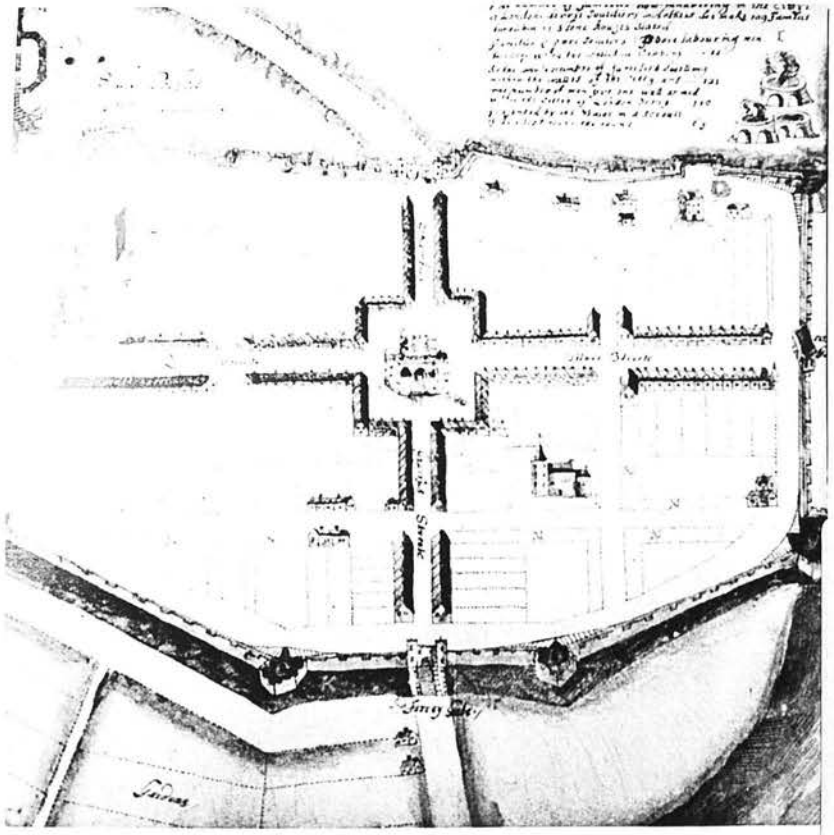


DIAGRAM No. 45

45. Layout of the new town plantation of COLERAINE, 1622.

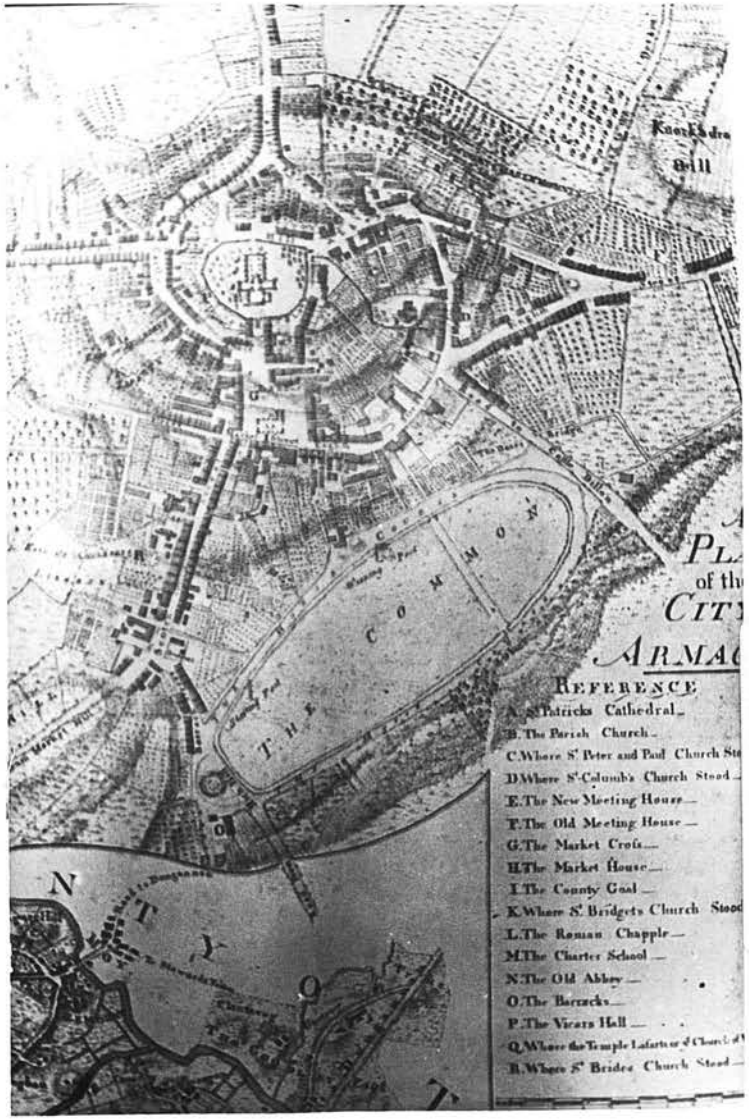
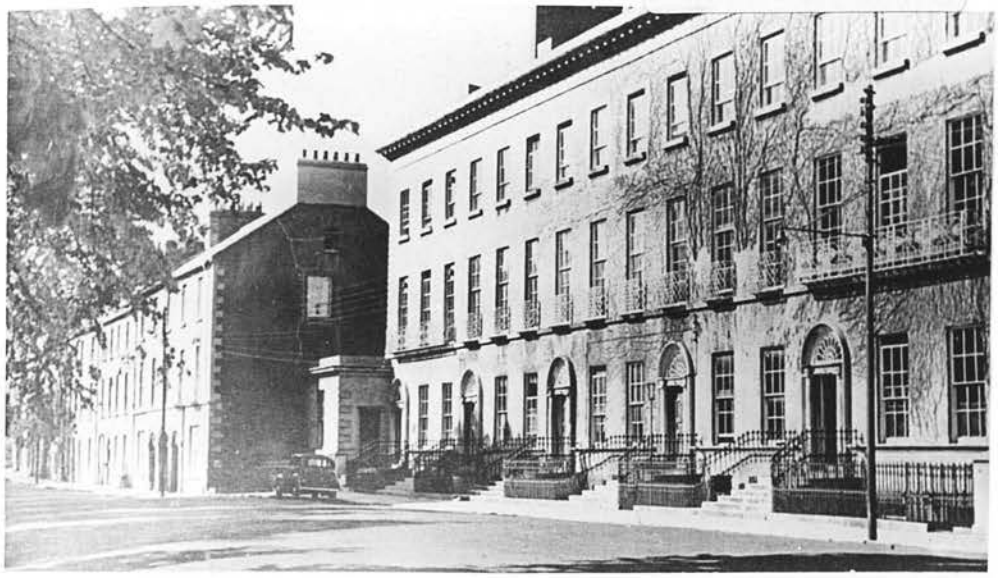


DIAGRAM No. 44.

44. Layout of ARMAGH in 1760.

DIAGRAM No. 46



THE MALL, Armagh - 1760

DIAGRAM No. 47

TYPICAL HOUSING PROVIDED FOR THE LABOURERS

From Camblin G.; The Towns in Ulster.

4. Capitalism, Industrial Expansion, and the Spread of London.

By the end of the sixteenth century, Britain was still in the process of adjusting to the national consequences of 'enclosures'. These had provided the means for the few privileged land-owners and entre-preneurs to accumulate much of the wealth of the country under their control. The country was also in the process of organizing new industrial enterprises, on a capitalist basis.(30)

"The Guild system had not been favourable to capital accumulation. In their technique and the ordering of their lives the merchants and craftsmen of the middle ages surpassed perhaps those of the centuries which were to follow. But the guild outlook was municipal and its structure inelastic, and therefore it gave way to a system which lent itself to expansion and change. This we call merchant capitalism, with its complement domestic industry. The merchant capitalist was a middleman who broke down ancient barriers. He defied corporate towns by giving out work to the country, and evaded the monopolies of the privileged companies by interloping ..... He committed excesses, but he was the lifeblood of economic growth."(31)

The trade of banking, where a fixed rate of interest was paid for the loan of money or gold, particularly in the trading enterprises, was increasing in England, as it had already grown in Antwerp and Amsterdam, and certain centres in France.(32)

The population had by this time exceeded four million, the majority of whom were living south of Nottingham. The forests had been considerably thinned, especially in East Anglia, in the search for timber with which to build ships, houses, and other buildings.

Industrial and agricultural changes of the sixteenth century had been accompanied by prolonged inflation, which tended to produce periodic waves of unemployment and poverty. In the Midlands, the enclosures for pasture-land often obliged thousands to leave their houses to find new occupations. Many villages disappeared between 1450 and 1600; tens of thousands of people

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(30) The references for this section are taken from Professor M.W. Flinn, G.M. Trevelyan, Rasmussen, S.E., London, the Unique City. (Cape 1948)

(31) Trevelyan, op.cit., - p.124, quoting Fay, C.R., Great Britain from Adam Smith to the Present Day. p.127.

(32) Flinn, op.cit. pp.69-72.

had abandoned them. On the other hand, it was claimed at the time, one person displaced from the land, also meant two employed in the woollen industry, which expanded with the enclosures. In retrospect, this does not appear to have been the case.

One effect of the sixteenth century inflation was a redistribution of income; the lower-paid workers became poorer, and the merchants and manufacturers became richer. Whilst this tendency towards inequality assisted the accumulation of capital in the hands of the few, it increased the problems of poverty. The causes of poverty were reckoned to be:- the rise in prices, the excess of population, irregularity of employment, and the increased spread of pasture (sheep) farming. The government recognised the need to expand the economy, and to lay the foundations for increasing industrial output. Professor Michael Flinn sees the State's policy towards industry in the sixteenth century as taking two directions; 'It attempted to attract new industries to the country by grant of special privileges and monopoly powers to foreigners and others willing to take the initiative in a new process; and in the older industries it endeavoured to preserve on the one hand the existing relationships between masters and servants threatened by the growing scale of industry, and, on the other, the control over industry by guild and borough.

Concessions, or patents, and royal grants were given to the Augsburg merchants to introduce copper smelting and the manufacture of brass; to the Antwerp glass-makers and to an Italian for making drinking glasses. The casting of iron was also introduced in this period.

There was little restriction on in-migration into Britain at that time, and there was a continuous stream of foreign workers entering Britain, bringing with them new skills and trades. Most were refugees from religious intolerance, such as the Flemish and the Dutch, fleeing from the Spanish, who were trying to recapture the Low Countries. The Flemish weavers brought the skills for 'new draperies' to the East Anglian cloth-making towns and villages. Silk weaving was brought to Spitalfields by the Huguenots in the late seventeenth century. Dutchmen established the manufacture of heavy cordage cables for ship-building. The manufacture of [redacted] soap, and saltpetre was begun. Most of the above items were manufactured under a Monopolies patent to foreigners, whereas local inventions, such as Lee's stocking frame, or knitting machine, and Harrington's water closet received no such protection.

The monopolies patents soon led to abuse of privilege and profiteering by those holding the patents, and by 1601, Elizabeth endeavoured to stop the practice. It was not until 1624 that all monopoly grants became illegal, through the Statute of Monopolies, except those made to genuine inventors or companies.

London was firmly established as the principal city of the country. When Mary Tudor died in 1558, the population of the city was estimated to be approximately 100,000; when Elizabeth died in 1603, the population was in excess of 200,000.

Norwich was the second largest city of the time, with a population of approximately 20,000, (4,000 of whom were foreign weavers); Bristol, York, Exeter, Newcastle and Plymouth were the other principal cities. A typical middle-sized town of the time was Leicester, with a population of about 4,000.

On a wet day, the City of London was a dirty place, with open channels in the middle, or on either side,of the street, into which householders threw refuse, causing them to overflow; liquid from manure heaps, piled high in the courtyards of inns, usually ran into the streets; from spouts and gutters on houses, the water dripped on to the passers-by beneath. In 1661 John Evelyn wrote 'Fumifugium or the Smoake of London Dissipated', in which he describes the dirt of London smoke, which, he says, is 'caused by the immoderate use of sea-coal, not for culinary fires, for this was small in quantity, but by brewers, dyers, lime-burners, soap and salt boilers. It is this pernicious smoake, this hellish and dismal cloud of sea-coale, which obscures our churches, makes our Palaces look old ... fouls our clothes and corrupts the waters ... diffuses and spreads yellownesse upon our choycest pictures and hangings ... kills our bees and flowers, suffering nothing in our gardens to bud, display themselves, or ripen.'(33)

He noted the 'consumptions, phthisicks, and indisposition of the lungs' which were to be heard in all the London churches and assemblies of people. He had discussions with Charles II to encourage the movement of such industries which used the coal to a distance of five or six miles from the city, but to no avail.

Over the period from 1551 to 1560, records show the consumption of 210,000 tons of coal per year. During the period 1681 to 1690, coal consumption per annum increased 14 times, to 2,982,000 tons. The increase in

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(33) Firth, C.B., The Days of the Tudors and Stuarts, (Ginn & Co. 1936) p.261.

the amount of coal used annually rose during the next century and tripled that of 1681, amounting to approximately 6 million tons per annum, in 1781, which was relatively low compared with 242 million tons consumed per annum by London by 1901.(34)

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(34) Trevelyan, op.cit., Book 2, p.258, quoting 'The Rise of the British Coal Industry, Nef, (Routledge).

Section 5. London Devastation - recognizing the need for town planning.

'The Great Fire, an Italian Facade, and a 'Building Code' for London.'

As described previously, Tudor, and later, Jacobean London was not the most hygienic town, nor was it the most orderly in its layout.

"Here was a city built by generations of carpenters and masons, a city of gables, mullioned windows, carved barge-boards, corner posts and brackets, exemplified by Gresham's Exchange, the turretted Nonesuch House on London Bridge."(35)

Charles I was determined to clothe London's suburbs with a respectable Italian costume, beginning with Covent Garden and the surrounding buildings in Great Queen Street and Lincoln's Inn Fields. William Newton, from Bedfordshire, was much occupied during the period from 1638 to 1643 in obtaining licences, marking out plots, selling for profit, and building on [redacted] the fields west of Lincoln's Inn, [redacted]. The Commissioner of Buildings ensured that they were all of Italian taste; 'Corinthian orders' were used in Great Queen Street, Ionic in Lincoln's Inn. To build a pure 'Italian' building could be done only under the patronage of the Court, and perhaps the best example of the time is the Whitehall Banqueting House, built during the period from 1619 to 1622.

The Earl of Southampton was the pioneer of the 'Square', which was the centre of a residential unit comprizing a market or shopping centre, and a number of smaller, less expensive streets.

It was not until the catastrophe of the Fire of London, which raged for four days and nights, destroying St. Paul's Cathedral and eighty-seven other churches, the Royal Exchange, and 13,200 houses in 400 streets, that attention to planned town building was properly reintroduced. Charles II, Christopher Wren, John Evelyn, and Dr. Hooke were capable of meeting the situation, as they had already been working towards a plan "for reforming the buildings, wayes, streets and incumbrances, and regulating the hackney coaches in the City of London," since 1662, when they had set up a Commission.

The fifteenth century manuscripts of Vitruvius, which had been discovered at the Convent of St. Gall, brought into discussion once again the concepts of planning a Utopia, an ideal town as a whole, and the principles which should be adopted. Alberti and Martini, Palladio, Peruzzi, Sangallo, Peeto Cattaneo and Scamozzi, took up the challenge of the 'ideal city', having in mind that European cities then were ever-conscious of likely invasions from enemies, particularly from the Ottoman Turks.

(35) Sources of reference for this section are from John Summerson, 'Georgian London, S.E. Rasmussen, 'London, the Unique City', Cecil Stewart, 'Prospect of Cities', and other references mentioned in the text.

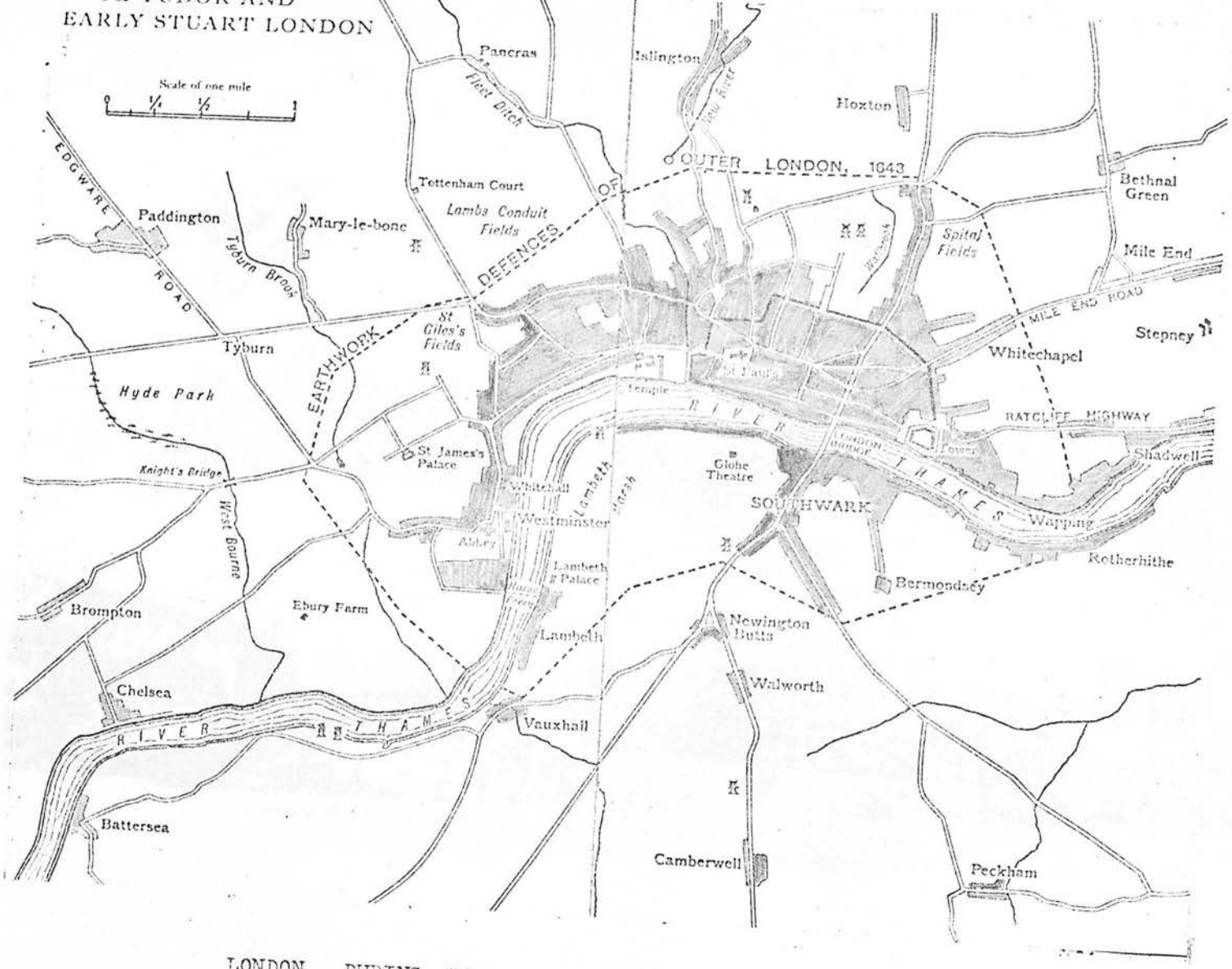
Hooke's plan for London had been preferred originally by the Lord Mayor and Aldermen, though there were many similarities with the plans of Wren and Evelyn, and it is apparent that the town design and planning examples of Venetians and Italians of the time were having a noticeable influence on English town planning ideas - the concept of piazzas, triumphal avenues and arches, interlocking 'fora', originally from Rome, as outlined by Vitruvius in 1511 in his De Architectura Libri Decem.

An Act for the Rebuilding of the City of London, 1667, was a comprehensive statute compiled by both the City Authorities and the Privy Council, with Christopher Wren as the Principal Architect. The Act covered the rearrangement of some of the worst features of the old plan, such as the meandering ways and frequent bottle-necks; the partial standardization of new buildings, and the raising of money for public buildings, (through a tax on coal, were introduced.)

The re-building plan enacted in February 1667 fell far short of the aspirations voiced in the first few days after the fire, because the people of London refused to go unhoused and unemployed while the plan was argued out.⊗ The capital of the country, the greatest port, the greatest market, the greatest source of revenue for the King's treasury, refused to stand idle while the merits of one re-building scheme over another were being debated. The people affected wanted the exact piece of land they had had before the fire; they were not prepared to put their trust in officials. Within two months, the King had given up hope of persuading the City to cooperate with long and protracted negotiations, and of implementing the grand re-planning scheme. However, the 'Building Code' was introduced, which provided for wider streets, uniform frontages, and the banning of overhanging eaves; the code was to be supervised by the Commissioners for Paving and for Sewers. Fire control measures were now to be enforced, and houses were to have no more than four storeys. A Court of Fire Judges was established to oversee these regulations and adjudicate between land-lords and tenants.

The need to rebuild so much so quickly broke down the prevailing restriction on migrants into the city, and building craftsmen and their labourers were encouraged to come to London; all restrictions were lifted for seven years, but it meant a new and large influx of people into the city.

⊗ op. cit., Rasmussen.



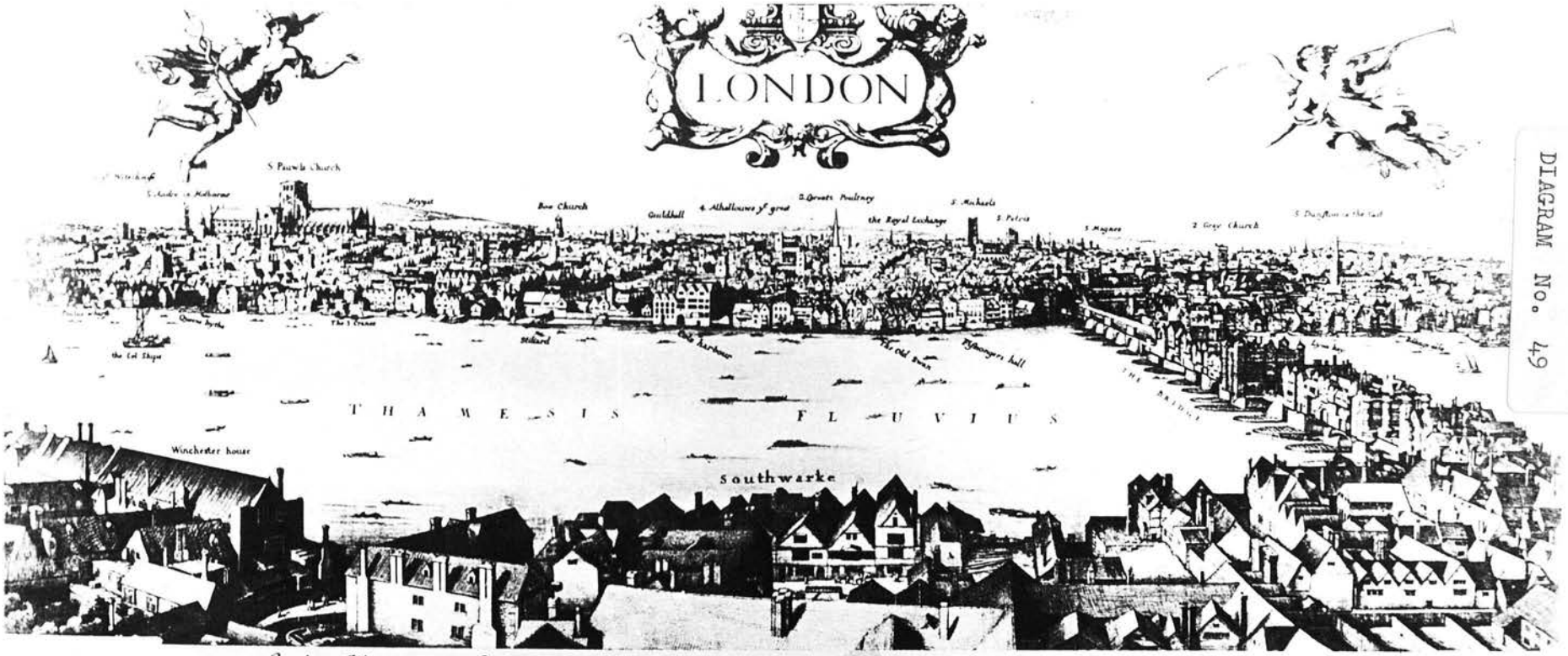
LONDON DURING LATE TUDOR AND EARLY STUART PERIOD

1650 AD (circa)

DIAGRAM No. 48

167

(op. cit. Trevelyan, p. 279)

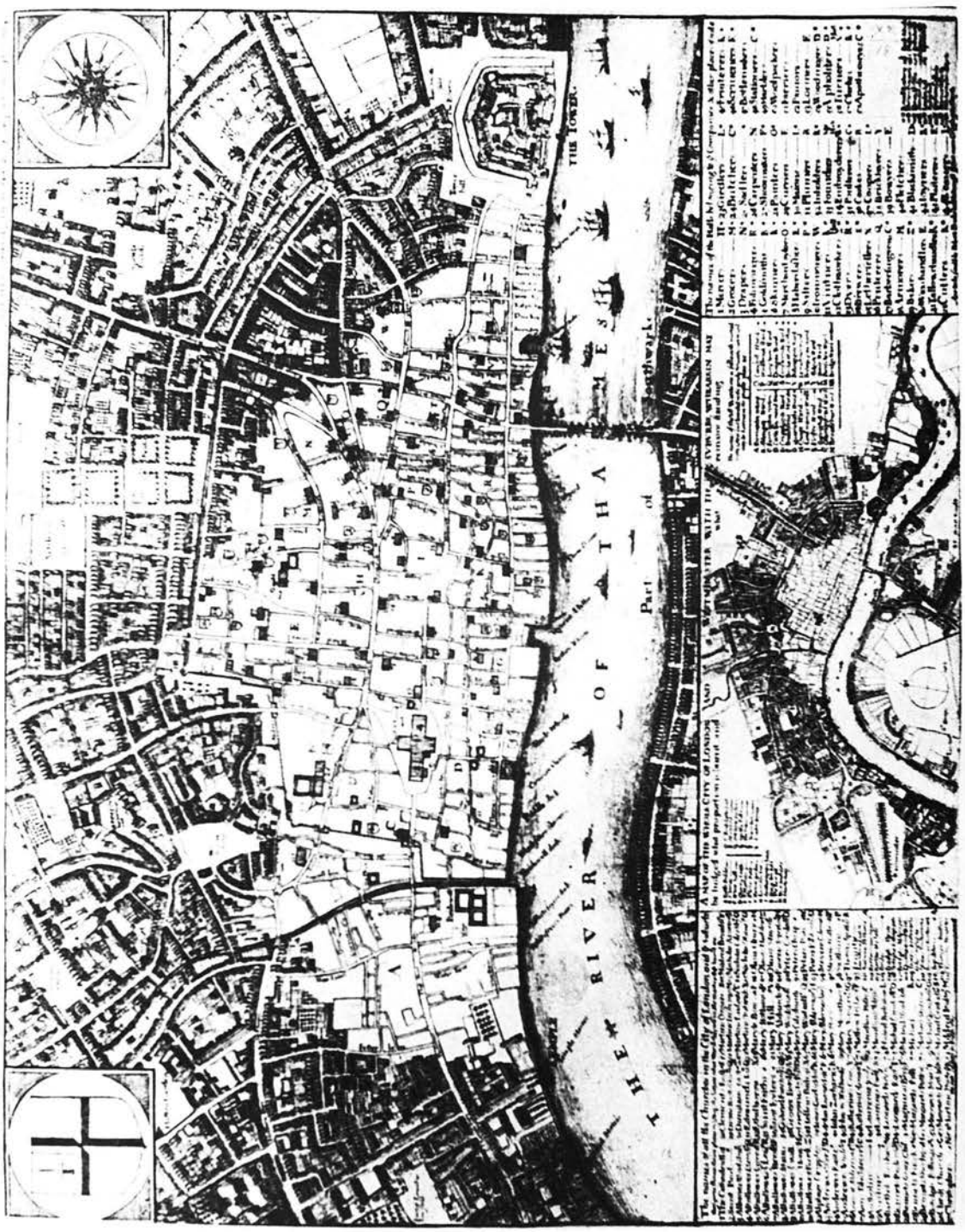


London Westminster & Southwark. Drawn and Engraved by Wenceslaus Hollar Published at Antwerp in 1647

Published by The London Topographical Society at 16, Clifford's Inn in the City of London 1906

Ministry of Public Works & Buildings

DIAGRAM No. 50

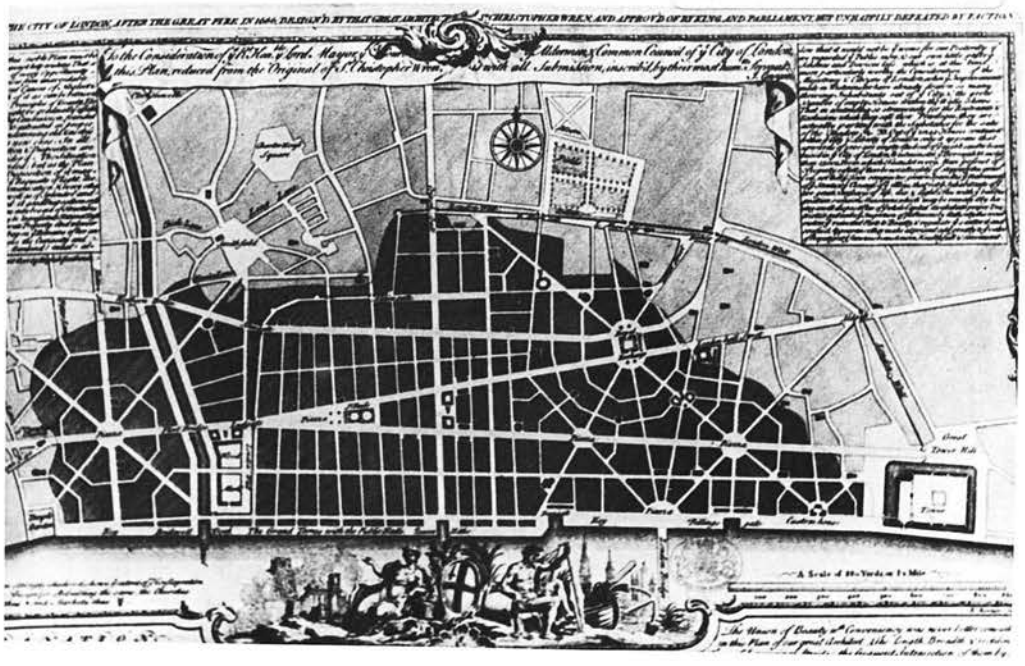


London: the light area is the extent of the Great Fire.

EXTENT OF THE DEVASTATION OF LONDON DURING THE GREAT FIRE 1666

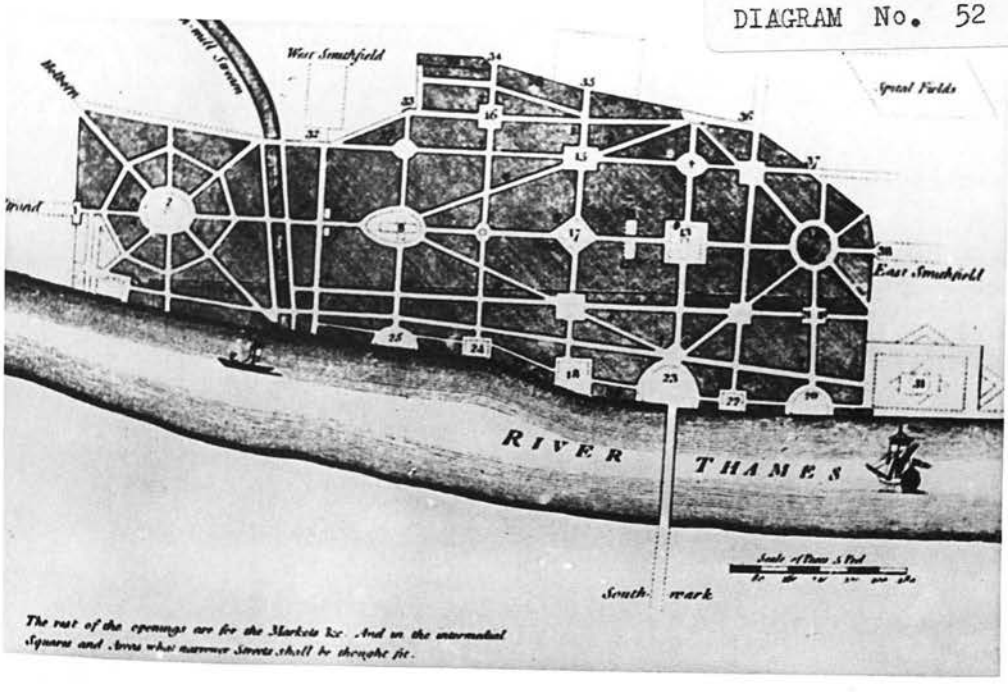
Hollar's Map of London, 1666,
cf. Rasmussen, p. 103.

DIAGRAM No. 51



CHRISTOPHER WREN'S PLAN FOR LONDON

DIAGRAM No. 52

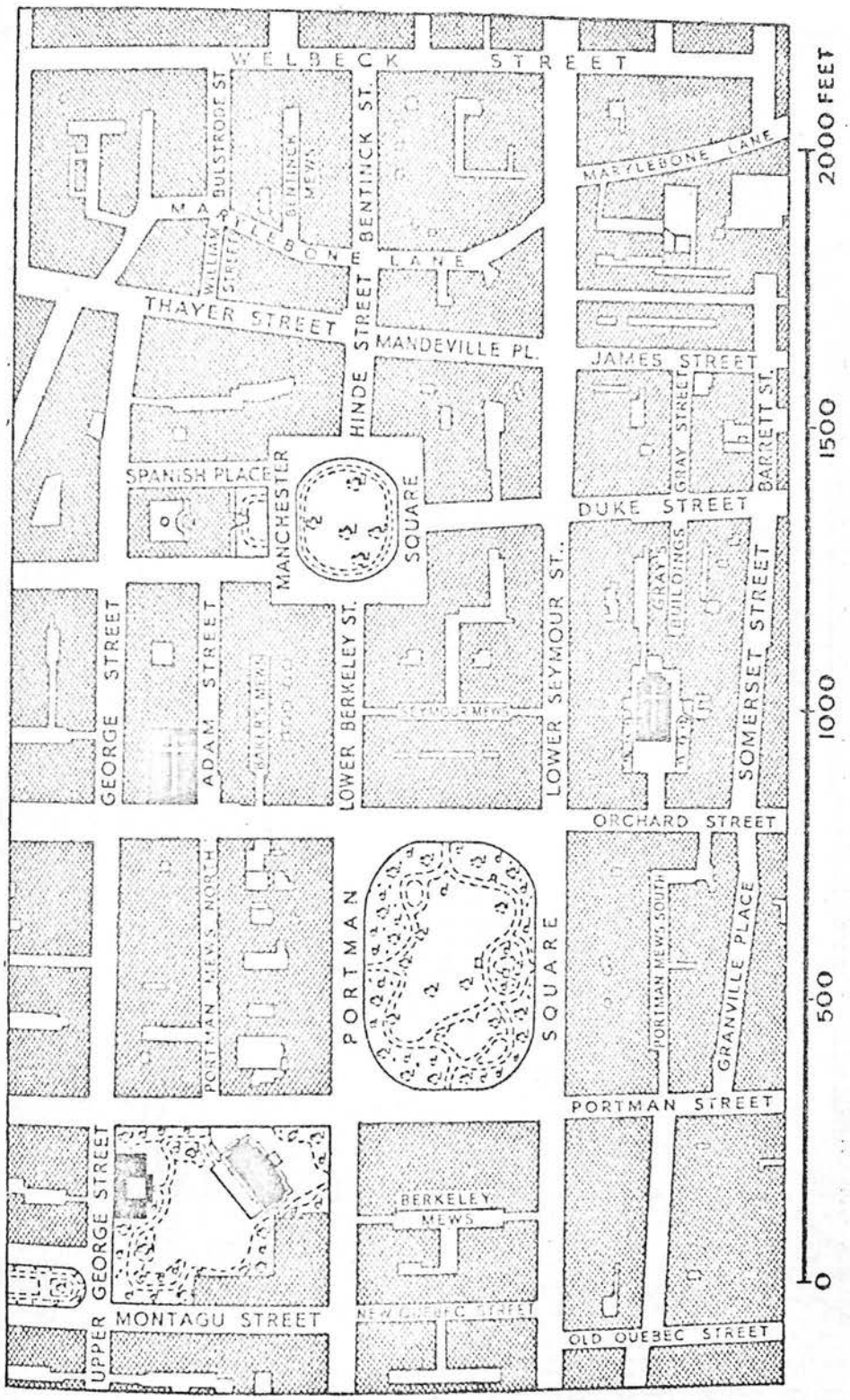


JOHN EVELYN'S PLAN FOR LONDON

The first of three plans.

From Vetusta Monumenta, 1789,

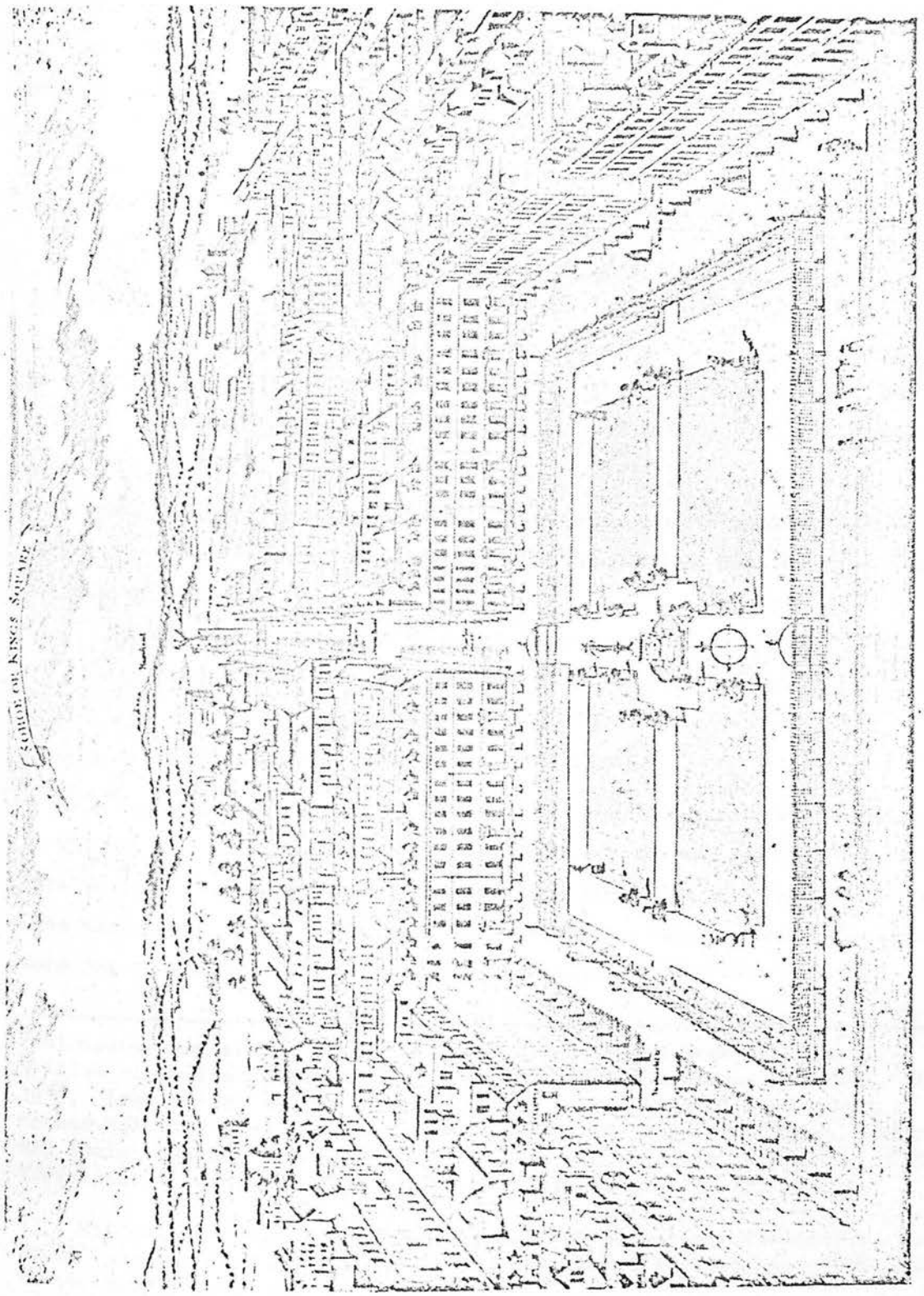
DIAGRAM No. 53



'THE SQUARE PLANNING OF THE WEST END OF LONDON'

(Stewart C.;Prospect of Cities, p.140)

DIAGRAM No. 54



KING'S SQUARE IN SOHOE

(op. cit Stewart, p. 153)

6. Estimating National Wealth.

In 1688, Gregory King estimated the population of England and Wales to be 5,500,000 of which 4,034,000 were living in country houses, small villages or hamlets, and 1,500,000 were living in the towns and cities.(36)

He estimated that 2,675,000 were landowners, merchants, and other men of substance, with their families and dependents, "who were increasing the wealth of the country", and 2,825,000 were the labouring people, servants, cottagers, paupers, common seamen and soldiers who were decreasing the wealth of the country. This was a concept of society through ownership.(37)

The Government had not developed any sense of 'political arithmetic' at this time, but this was to develop towards the end of the eighteenth century. Now, in the eyes of the King and the contemporary ruling class, the 'Wealth of the Nation' as against the King's treasury, was a tangible thing that could be measured, which they could manipulate, and possibly increase, and most certainly tax.

The national income for 1688(37) was estimated to total £48 million, with £37 million made up as follows, and the balance made up from a miscellany of sources;

£19,300,000 from agriculture, forestry and fishing
9,900,000 from mining, manufacturing and building
5,600,000 from trade and transport
2,500,000 from rents from dwellings

For the same year, the Government (or Public) income was estimated to be £8,613,000, or a little more than 1/6th of the national income; £4.3 million (50%) was derived from Customs and Excise, and £3.1 million from Land Assessment taxes. It should be noted that the Government's expenditure for the same year was estimated at £11,543,000.(38)

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(36) Sources of reference mostly from Mitchell and Dean, Abstract of British Historical Statistics, W.A. Cole, British Economic Growth, 1688-1955, Adam Smith, the Wealth of Nations (U.P. Methuen), vol.1 & 2., Thomas Malthus, First Essays on Population, Professor M. Flinn, Economic and Social History of Britain, Derek Jarrett, Britain 1688-1815, G.M. Trevelyan, Illustrated English Social History, Book 3, and others.

(37) Mitchell and Dean; Abstract of British Historical Statistics, C.U.P. 1962, (Gregory King's estimate, 1696, calculated for the year 1688, based on the Hearth Tax. etc.)

(38) Cole, W.A., British Economic Growth, 1688-1955, C.U.P. 1962.

The attitude was taking shape that only the magnates, farmers professional men, skilled artisans and craftsmen were adding anything to society, and therefore, their position entitled them to the freedom of the country, just as members of Guilds or Corporations were entitled to the freedom of their towns and cities.

An awareness of the need for an improved system of transport and communication was beginning to emerge, although it was not the responsibility of Government. In 1663, the first turnpike had been set up, and by 1688, there were several in operation. Locks and weirs were being constructed on the rivers, and barge traffic was beginning.

London was now the largest trading centre, an entrepot of world importance, and by far the largest ship-building centre in England; clock-making, glass-blowing and other skilled crafts were centering on London.

Edward Lloyd's coffee-house was frequented by men willing to underwrite ships and their cargoes in 1688, and by 1692 it was recognized as the centre for marine insurance. London financiers were discounting Bills of Exchange as well as providing credit.

Bristol was also growing as a major port, acting as the centre for the iron, coal, and metal products of South Wales and the Midlands, the cloth industry from the west, and the agricultural, china and glass industry of the region. It was also the port receiving much of the African and Carribean trade, which was growing in importance, with its tobacco and sugar imports.

Liverpool doubled its population between 1620 and 1724. Newcastle grew with trade from the Baltic and Northern Europe. Although these coastal towns and ports were growing in importance through trade, manufacturing towns such as Birmingham, (pop. 10,000), and Sheffield, (pop. 2,000) were also growing in importance; the metal industry was growing. The woollen industry continued to prosper in Norfolk, south-west counties and West Riding in Yorkshire. It was said that by the time the wool left the sheep's back to the time that it reached the merchant's shelf, it had increased in value ten-fold.

The economists of the time measured the value of production purely in terms of the difference between the cost of raw materials and the value of the finished product. At this stage, woollen exports were four times more

than the total value of metal, cotton, and silk goods put together; weaving had ceased to be only a cottage industry and had now become an established industrial occupation.(39)

From the sixteenth to the early eighteenth century, those responsible for Government, who were mostly those with vested interests in trade, banking and insurance, were pursuing an active economic policy, believing that it was the duty of the Government to encourage certain industries, to preserve the influence of the craft guilds, and to take steps to protect the nation's mercantile shipping. Many charters were granted and Acts of Parliament were passed to achieve these aims. In some cases, the means were just not available to fully carry out the intentions of the Acts, nor were all the results satisfactory. Municipal affairs, and such matters as urban growth, were strictly local matters.

The political aims of the laissez-faire economists were the abolition, or significant reduction,of the import and export duties, of monopolies, of the Navigation Acts, and the whole system of colonial regulation, led mostly by William Pitt, 1783-1801, 1804-1806.

The Scottish economist, Adam Smith, led those who were the critics of the Government's policy, in an 'Enquiry into the Nature and Cause of the Wealth of Nations', in 1776, in which he attacked the whole nature of the economic policy for the preceding 250 years. He stood out against Government intervention in the economic affairs of the country; in his view, they should provide only the police, justice, and the security of the environment in which the private entre-preneurs can create wealth. He contended that the people were being denied the cheapest and best source of production because of Government interference, the prohibition of imports, and the agreement to monopolies of manufacture; this only forced trade and industry into unnatural channels. He contended that a country would make best use of its resources if every individual was allowed to choose those occupations and ways in which to invest his capital, which seemed to him most likely to be advantageous.

Adam Smith also made clear those other activities for which, in his view, Government should assume responsibility;

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(39) Flinn, M., op.cit.

1. "duties of protecting society from the violence and invasion of other independent societies,
2. "the duty of protecting as far as possible, every member of society from the injustice or oppression of every other member of it,
3. "the duty of erecting or maintaining certain public works and certain public institutions, which can never be for the interest of any individual, or small number of individuals, to erect and maintain."

Although Dr. Smith may have had in mind the belief that the Government should ensure that no group of people should be able to wield a power to the disadvantage of other groups, (bearing in mind the evils of the monopoly trade as well as the exploitation of labour by grasping employers), his final work was not sufficiently explicit, and was open to both abuse and criticism; abuse in the form of endorsement for those already benefitting from monopolies and exploitation of labour, and criticism by Malthus, David Ricardo, and James Mill. Malthus pointed out the fallacy of the system of national accounting of Adam Smith's laissez-faire economic principle;

"If a nation were to add what it saved from its yearly revenue only to the manufacturing capital of the country and not to the investment capital employed on the land, it is evident that it will grow richer according to the above definition, without the power of supporting a great number of labourers, and therefore, without an increase in the real funds for the maintenance of labour."

Malthus challenged that Dr. Smith's enquiry omitted the cause, happiness and comfort of the lower orders of society, which he recognized, are the most numerous in every society. Dr. Smith, however, did stress the need for Government to provide education, sanitation, water supplies and other public health services, but in the late eighteenth century, under George III, his was a voice crying in the wilderness.

During the eighteenth century, Parliament spent much time in suppressing the associations of workmen, and trade unions; it endeavoured to prohibit their formation. Early attempts by Robert Peel and Robert Owen in the first decade of the nineteenth century to introduce Factory Acts met with much opposition, and those Acts which were passed were rendered ineffective.

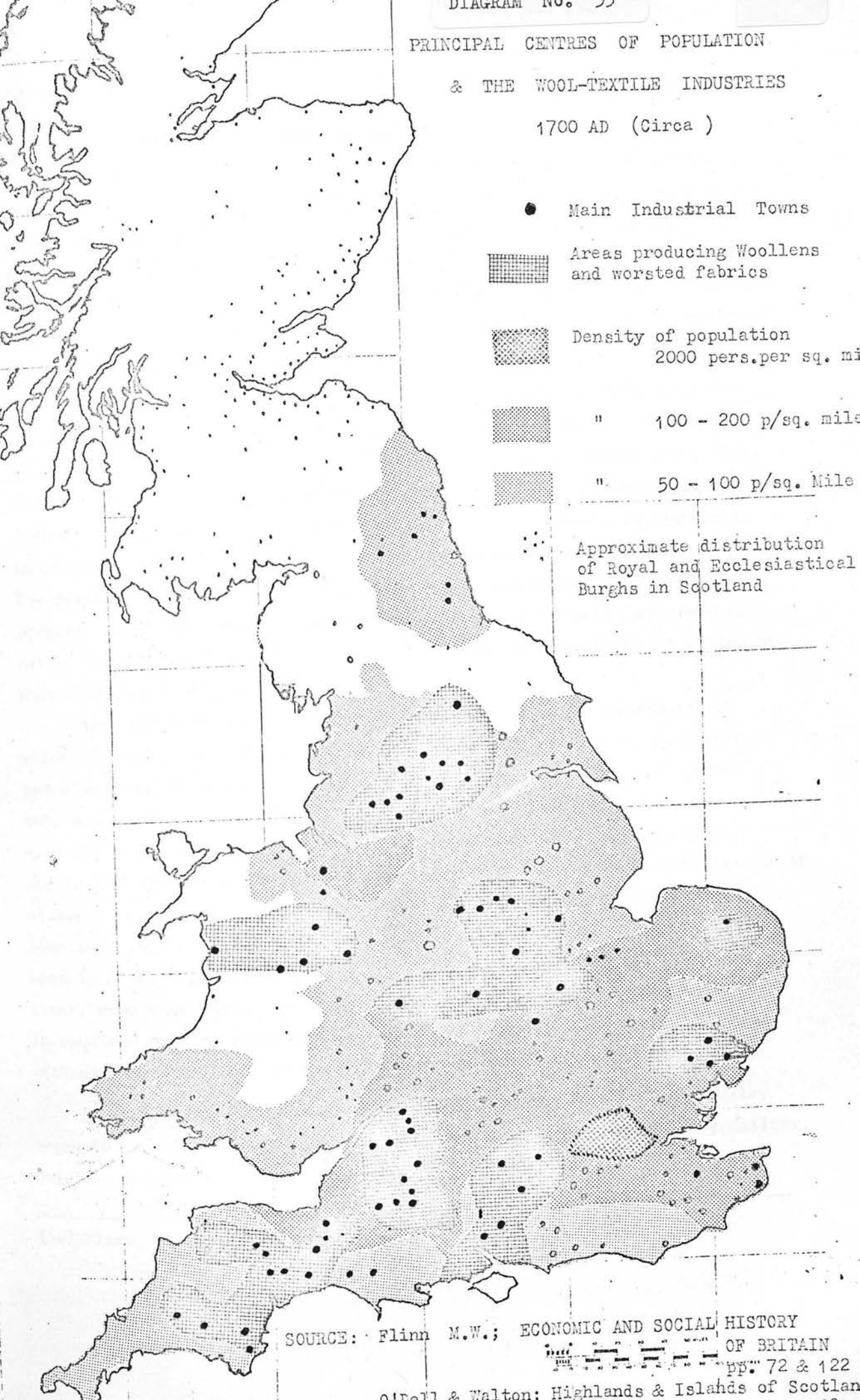
Jeremy Bentham (1748 - 1832) came out in support of a similar theme to that of Adam Smith, with an economic laissez=faire approach, i.e., no government control in the economy, but he relegated to Government the responsibility to protect the weaker members of society, to provide certain services for the relief of the poor, public health services, and education, which the private sector could not, or would not, provide. Bentham demanded that Government's action should be measured and tested as to whether it "produced the greatest happiness for the greatest number." The increase in human happiness was most likely to be achieved by the pursuit of four aims of social policy;

1. establishing universal social security (i.e., removing the fear of want, which hung over most of the lower classes for some period of their lives),
2. guaranteeing freedom from starvation,
3. increasing the flow of goods and services,
4. reducing inequalities of wealth.

To ensure that the Government acted in the interests of those it governed, rather than merely in the interests of only one section, he recommended universal suffrage. His disciple, Edwin Chadwick, exercised considerable influence over the social reforms of the 1830's.

DIAGRAM NO. 55

PRINCIPAL CENTRES OF POPULATION & THE WOOL-TEXTILE INDUSTRIES 1700 AD (Circa)



SOURCE: Flinn M.W.; ECONOMIC AND SOCIAL HISTORY OF BRITAIN pp. 72 & 122

O'Dell & Walton: Highlands & Islands of Scotlan

CHAPTER 6 - TOWN IMPROVEMENT BY ACTS OF PARLIAMENT

1. Industrial Towns and Urban Squalor.

The application of steam power to industry was one of the several contributory causes of industrial expansion; an international marketing system was already in existence, means of financing and obtaining credit through the banking system was available; the will, and the need to expand the national economy was present; technological innovation and inventiveness were being demonstrated and patronized, and there was an abundance of cheap labour available in the urban centres.

Initially, it was the cotton and textile industries which flourished, especially in south-east Lancashire, at Bolton, Bury, Oldham, Rochdale, Ashton-under-Lyne and Stockport, all clustering around Manchester. The fact that employment was to be had in these centres only encouraged more impoverished people from the rural areas and from Ireland, to migrate to Manchester and the surrounding towns, all hoping for some employment. The problem of finding housing was the sole responsibility of these poor people; their need was not recognized by the town council, and certainly not by the Government. Dr. Ferriar described the conditions of living of many families in Manchester in 1796:

"Each consists of two rooms under ground, the front apartment of which is used as a kitchen, and though frequently noxious by its dampness and closeness, is greatly preferable to the back room: the latter has only one small window, which though on a level with the outer ground, is near the roof of the cellar; it is often patched with boards or paper, and in its best state is so much covered with mud as to admit very little of either air or light. In this cell, the beds of the whole family, sometimes consisting of seven or eight, are placed. The floor of this room is often unpaved: the beds are fixed on the damp earth. But the floor, even when paved, is always damp. In such places, where a candle is required even at noon-day, to examine a patient, I have seen the sick without bedsteads, lying on rags; they can seldom afford straw."(40)

In Yorkshire, in the early nineteenth century, the woollen industry began to expand around towns such as Leeds, Bradford, Huddersfield, Halifax, Shipley, and Otley.

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(40) Flinn, M. op.cit. p.213.

The metal-working and engineering industries expanded and consolidated in the Midlands, mainly in the triangle formed by Birmingham, Wolverhampton and Stourbridge. The coal and iron industries grew around the towns of Wales, in Merthyr Tydfil, Cardiff, Newport, Swansea, and Port Talbot, the Rhondda, Taff and Tawe Valleys.

In Cheshire, silk manufacturing was carried on in Congleton, Leek, and Macclesfield.

The pottery industry, the outcome of Josiah Wedgewood's enterprize, was to be found in Stoke, Hanley, Burslem, Longton, Fenton and Tunstall.

The great ports, such as London, Liverpool, Glasgow and Newcastle continued to expand, and became the centres of finance, commerce, ship-building, and miscellaneous industries.

One thing which was common to all of these rapidly growing towns was the continuous influx of impoverished people searching for employment, and the increasing number of families living in unhealthy slum conditions.

The houses which were built by speculators were of minimal standards, having no proper sanitation, little or no garden, no rear access, and being ill-lit and ill-ventilated. These houses were only for those who could pay rent, those who could pay very little or none crowded into basements, cellars, garrets, old dilapidated unused buildings or shacks.

The town councils were ill-prepared for this sudden increase of population; what services were provided for their own townspeople were provided from the taxes which they could collect from among themselves and their local industries. They had rarely bothered to provide a proper drainage system, or paved roads, still less, a water-bourne sewerage system for the tax-payers of the town; providing piped water supplies for the towns was only beginning. For those districts of the town where there were few tax-payers, little or no public services were provided.

The same conditions applied to all the rapidly expanding industrial or large towns of the eighteenth and early nineteenth century. Francis Place, in 1826, described the rookeries of London as 'several of the most dirty, wretched, and miscreant neighbourhoods of the city;'

"In a few years from this time it will hardly be believed that an immense number of houses were built in narrow courts and close lanes, each house being at least three stories and many of them four stories above the ground floor. That in these courts and lanes the dirt and filth used to accumulate in heaps and was but seldom removed, that many of these tall

houses had two or three and sometimes four rooms on a floor, and that from the garrets to the cellars a family lived or starved in each room. Circulation of air was out of the question, the putrid effluvia was always stagnant in these places, and had not London been in other respects a healthy place, the plague must still have continued among us."(41)

The town in the eighteenth century was still very much a place for the convenience of the merchants and town councillors, and was not viewed in total as an identifiable community within a national urban structure. The 'Italian Facade' which Charles I was intent on giving to London had caught the imagination of the wealthy land-owning class, and such was the only visual image of a town which these people wanted to see.

2. The Improvement Boards.

Under the Westminster Improvement Act of 1762, the Commissioners set about making some urban improvement, in at least one part of metropolitan London. Foot pavements were constructed, street lamps (which were alight all night) were installed, and a domestic water supply was provided. This was reticulated through wooden pipes, and connected to the houses by lead pipe connections, with water available three days a week. Fire plugs were installed in the streets, and new sewers were constructed (though these were defective enough by later standards). All this, together with the new and elegant houses in the superb squares of the West End, caused the comment by Archenholtz in 1780 that "if all London were as well built, there would be nothing in the world to compare with it".(42)

But there was much of the urban problem for which the Improvement Commissioners were not responsible. The point of view of most of the Commissioners, who were acting under the Improvement Acts of the eighteenth century was that their purpose was urban improvement, and this included the removal of nuisances of all kinds, which often included dilapidated hovels, and their inhabitants. Civic pride was concerned with expensive rebuilding schemes, but not with the welfare of humanity. The Commissioners considered that the rookeries, the slum-squatter colonies in the many courts and alleys, were outside their jurisdiction. The improvement of dilapidated slum areas by their substitution of a public facility, such as a roadway, was necessary and legitimate, but the fate of the people who inhabited the demolished rookeries was of no concern to the Commissioners; the families simply went to form new slum or squatter colonies in other parts of the city.

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(41) George, Dorothy M., London Life in the Eighteenth Century, (Kegan Paul, 1925, Peregrine 1966) p.113.

(42) George, D., op. cit., p.76.

Nor was any provision made by the central or local government for housing the people dislodged from the demolished rookeries in the early nineteenth century. For the most part, as before, the demolition of the rookeries had only the effect of increasing the overcrowding in the parts which remained.

Recreation resorts, developed and built under the patronage of the Monarchy, were fashionable in the eighteenth century; the work of Nash at Bath, the influence of which can be seen at Brighton, Buxton, Weymouth, and other resort towns, such as Clifton, Cheltenham, Harrogate, Leamington, Malvern, Scarborough, Epsom and Tonbridge, are typical examples. These are more a product of the age, but have continued through the decades as fashionable towns; most grew in popularity in the early nineteenth century.

An awareness of town and civic improvement was coming about among the members of the society, though John Summerson describes how "improvement" was interpreted in those days:

"At the lowest level, it might be said that 'improvement' occurred whenever a sufficient number of influential men were so inconvenienced as to be induced to act in accordance with the public spirit with which they believed themselves endowed. Their own interest, and that of the public, seen to coincide, they set about obtaining from Parliament powers to carry an improvement into effect with the minimum expense to themselves."(43)

Several Acts were passed in the eighteenth century aimed at town improvement, ranging from the Building Acts of 1707, 1709 and 1774, concerned with structure and fire-proof materials, the 'Rebuilding of the Citty Act', 1750, several acts for the construction of Bridges, 1736, 1761 (Westminster, London and Blackfriars) and several Road, Lighting and Paving Acts, 1760 and 1761.

The Reform Bill of 1832 gave the first shock to the old oligarchic traditions and responsibilities, and opinion in Parliament hardened against anything in the nature of State initiative in town improvement. Means of financing town improvement by central Government was not deemed feasible at the time; the Coal Duties were proving to be hopelessly inadequate to provide the funds necessary for town improvement, as it was really needed, throughout the country.

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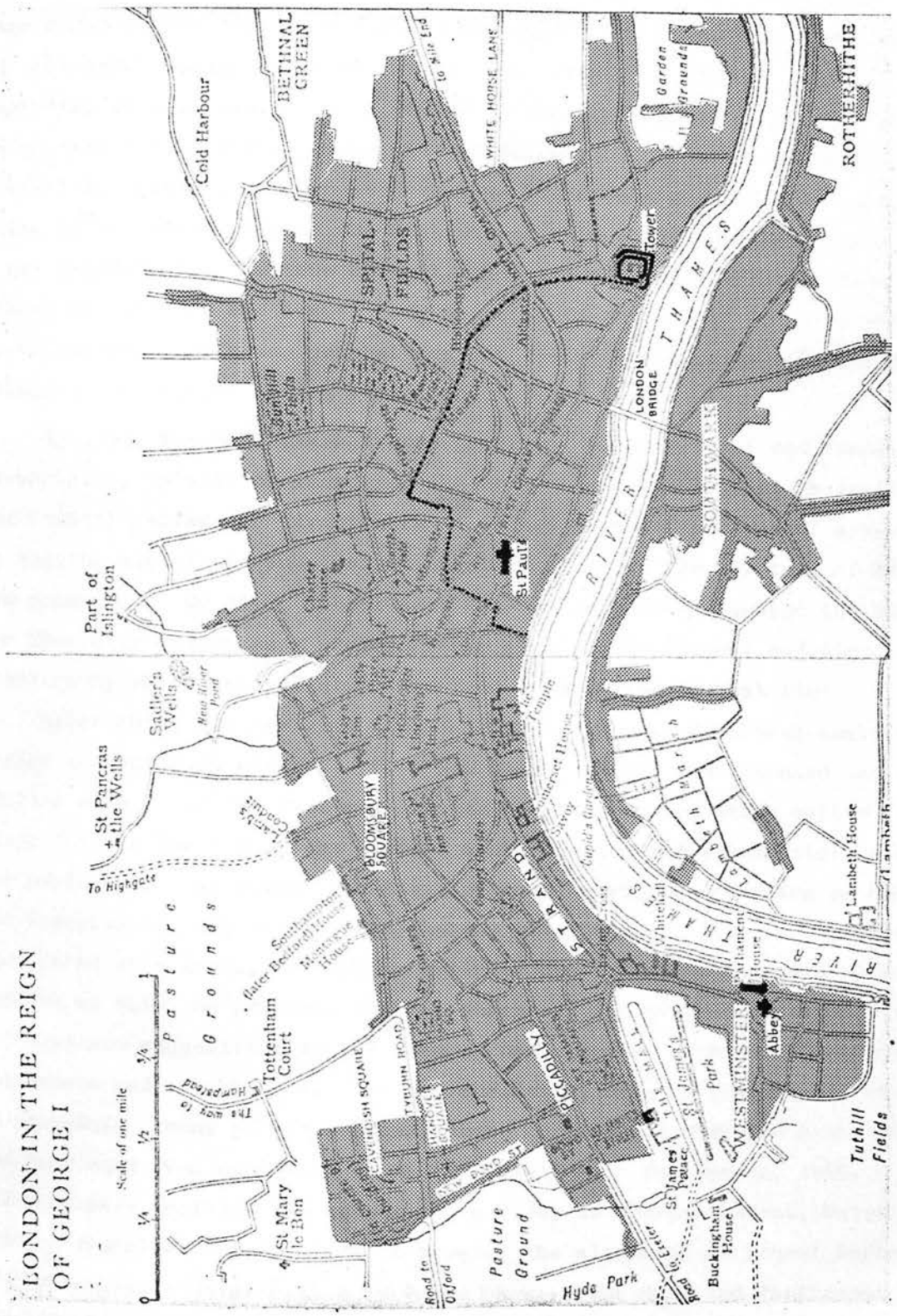
(43) Summerson, J., op. cit. p.104.
See also Webb, S and B; English Local Government, Statutory Authority and Special Powers.

DIAGRAM No. 56



THE SPREAD OF LONDON BY c.1720

(Trevelyan, Book 3, p.275)

3. A new town for Edinburgh

As early as 1752, Sir Gilbert Elliot, strongly influenced by George Drummond, Lord Provost, drew the attention of the Corporation of Edinburgh to 'the narrow lanes .... and dirtiness. The houses stand more crowded than any other town in Europe.' The Corporation was ready to take note, because several of the high, crowded buildings were beginning to collapse. His 7,500 word report, "Proposals for carrying on certain Public Works in the City of Edinburgh", drew attention to the prevailing squalor, and proposed that an Exchange should be built upon the ruins on the north side of the High Street, along with new law courts, and a new building for the town council, and also proposed that the royal land should be extended and beautified, all of this to be paid for by a national contribution. This won general support, and the beginning was made to planning and reconstructing Edinburgh.

By 1766, the undertakings were proving so successful and feasible, financially, as well as improving the urban environment, that in April 1766, the Council called for "Architects and / others to give in Plans of a New Town". By August, out of six submissions, Craig's plan for the new town of Edinburgh was accepted. By 1790, Robert Adam was commissioned to design the buildings for Charlotte Square as a whole, rather than the individual and piece-meal practice by which the buildings had been constructed to that time.

After this, and early in the nineteenth century, Edinburgh continued to expand in sustained growth. The 'New Town' concept was extended far beyond Craig's plan. In the same year as the Edinburgh Corporation called for the plans for the New Town, John Gwynn's book, "London and Westminster Improved" was published. He raised the issue of considering the planning of London and Westminster, and urged, that the map covering both cities should be considered as a whole, and future activity controlled by a general plan. In support of this, he produced his own scheme of improvement, with more than 100 separate suggestions in the form of new streets, squares, widenings, clearances and embankments. It was realistic, even by present day standards of planning. Many of his proposals were carried out over the next 100 years and some were even contained in Abercrombie's Plan for London, 1944. Some of his proposals included the scheme known today as The Embankment, Waterloo Bridge, Trafalgar Square, Bedford Square, the alignment of Regent Street with the Haymarket, a Royal Palace in Green Park, Tower Hill and Parliament Square. His plan inaugurated the "age of improvement".

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(44)

Youngson, A.J. The Making of Classical Edinburgh.

LAYOUT OF CRAIG'S PLAN FOR THE NEW TOWN OF EDINBURGH

DIAGRAM No. 58

EXTENSION OF THE "NEW TOWN" OF EDINBURGH IN THE 19th. CENTURY

wn by Tho H. Shepherd

Engraved by J. Johnston

AINSLIE PLACE, EDINBURGH.

DIAGRAM No. 59

CHAPTER 7. INDUSTRIALIZATION, URBAN GROWTH AND ECONOMIC GROWTH

1. Industrial Towns of Urban Britain - Benefit and/or Cost

The Great Exhibition of 1851, in the Crystal Palace, newly-built by Joseph Paxton, displayed to the world Britain's mastery in the techniques of manufacture. Britain was already establishing a significant lead in world trading, and was to command an undisputed lead until the late 1870's, i.e. when foreign competition began to take effect.

The 19th century (1801-1901) was a period of continuous urban and economic growth for Britain. As shown in Tables 17 and 18, pp.191-92, the estimated increase of Gross National income increased from £232 m. to £1,642 m., though if these figures are adjusted to the constant value of the pound related to the consumer price index of 1688, then in real terms, the increase was from £160 m. to £2,200 m. Government income increased from £31.5 m. to £140.2 m. over the same period (£21.7 m. to £188.2 m. adjusted).

Table 22 traces the principal sources of income for the Government since 1688 through to 1951, showing how tax on income and property, which was introduced in 1851, became the largest contributor to Government income by 1951.

The increase of population in towns of 5000 persons or more for England and Wales only, i.e. not Britain as a whole, increased from 2,314,515 in 1801 to 19,763,264 by 1891; the number of towns increased from 106 to 622 over the same period, as shown on Table 19, p.193.

This increase of national income at a little more than 3% per annum, and an increase of urban population at approximately the same rate over the 19th century, is in contrast with the pre-industrial period of the 17th and 18th centuries, when urban population was noticeably increasing without an equivalent increase in the national income.

Diagram 60, p.197, graphically portrays the summary of statistical information on national income, government income, total population, urban population and the increase of population of Greater London, over the period 1801-1971, as shown in Tables 20, 21, and 22, pp.194-95. The most recent information was extracted from the Annual Abstract of Statistics, HMSO, 1972.

Government income, during the 19th century, increased proportionately with the increase of the national income, but, by the turn of the century, in 1901, it was approximately 8½% of the national income, as compared with 14% in 1801. Over the century from 1801 to 1901, however, it increased four times its 1801 value, i.e. from £31.5 million to £140.2 million. (If the value is adjusted to the constant consumer price index figure, the increase in purchasing terms was more like an increase of eight times its 1801 value.)

Most of the investment into the urban construction process, and the urbanization process, was from the private sector, (including charitable investment into housing trusts). New urban transport systems were being built, trains, underground train systems, tramway systems, turnpike roads, housing, schools, industries, parks, commercial urban buildings, whilst the Government investment was used for urban health projects, such as public baths and laundries, sewers, drainage systems, etc. By the end of the 19th century, there was a debit on the side of investment into social fixed assets, the responsibility for which has been accepted by both central and local government, from that time.

The first quarter of the 20th century, as illustrated in Diagram 60, shows a significant increase in the annual rate of increase in government income, in relation to national income, i.e. 5.5% per annum for government income compared with 2.4% per annum for national income. From 1923, national income diminishes by 1.3% per annum for a decade, whilst government income remains the same until 1939. What is significant about the trends of increase of both national income and government income in the mid-20th century, is that the higher rates of increase of both are coincidental with the Government intervening in, and accepting responsibility for, the planned urban growth and development of the country. The extent to which the improvement in the quality of life and the urban environment in Britain is coincidental with, or consequent upon, the Government guiding the urbanization process, is a study which, in quantitative terms, is urgently required by the planners and policy-makers in developing countries.

The scale of operation, the investments made in the foundations of the urban system, rapid local transport systems, linked to a national infrastructure, value of product per capita, an international maritime and financial system, were all part of a dynamic process of growth, (in which the urbanization process was playing its part) and which had taken the country to a take-off point for continued economic and social growth.

The question which this thesis is exploring is the extent to which this model is directly applicable to the circumstances prevailing in the developing countries today, and whether it is the model of the growth process through which all developing countries will have to go before they will be in a position to bring their urbanization process under control, or whether it is possible to identify some alternative method which the decision-makers can take to arrive at the same objective of a higher urbanization standard in the later part of the 20th century. Britain pioneered many urban technological advances, in urban health and sanitation systems, in rapid transport systems, trams, buses, electrified underground rail systems, public housing, local government and town planning, all of which were made possible by the combination of initiative, enterprize, economic growth, expansion of markets (both at home through the urban growth process, and abroad), financial resources and human resources. How much of the laborious experimental process of the 19th century can be by-passed by the developing countries to proceed at an accelerated rate to attain the same urbanization objectives, is one of the challenges facing many of the decision-makers in the developmental process of both the developing countries and the development institutions.

TABLE 17 : INCREASE IN NATIONAL INCOME 1801-1901

Year	Income from the following sectors (£ million)					(£ million)	(£ million)
	Agric., Fish, Forestry	Mining Manufac. Building	Trade Transport	Dwellings & property	Other	Estimated Gross Nat. Income	Gross Income adjusted to 1688 consumer price index of £1.
1801	75.5	54.3	40.5	12.2	49.5	232	160
1821	76	93	46.4	17.9	57.7	291	295
1851	106.5	179.5	97.8	42.6	96.6	523	726
1871	130.4	348.9	201.6	69.4	165.7	916	1143
1881	109.1	395.9	289.6	104.0	389.4	1288	1615
1901	104.6	660.7	383.0	134.2	179.7	1642	2200

Source: Cole, W.A., British Economic Growth, 1688 - 1935. C.U.P. 1962.

TABLE 18 : PUBLIC FINANCE - Government Income, 1801-1901

Year	Source of Revenue (£ million) and Income									
	Customs	Excise	Stamps	Land and assessed property tax	Property & Income Tax	Post and Telegraph	Death Duties	Other	Total Income (£ million)	Income adjusted to price index of £1 in 1688 (£ million)
1801	6.7	10.6	2.6	5.1		1.9		4.6	31.5	21.7
1826	18.7	22.6	7.7	5.4		2.2		1.1	57.7	58.0
1851	22.0	15.3	6.7	4.6	5.5	2.3		0.7	57.1	79.6
1876	20.0	27.6	4.4	2.5	4.1	7.2	5.8	2.9	75.5	94.6
1901	26.6	38.4	7.8	2.5	26.9	17.3	17.2	3.5	140.2	188.2

Source: Mitchell, B.R., and Deane P., Abstract of British Historical Statistics, C.U.P.

TABLE 19: RURAL TO URBAN SHIFT OF POPULATION, 1801-1891
for England and Wales

Classes of towns and cities	1801		1851		1891	
	No. of towns	Population	No. of towns	Population	No. of towns	Population
Over 20 000	15	1,506,176	63	6,265,011	185	15,563,384
10,000 - 20,000	31	389,624	60	800,000	175	2,362,376
5,000 - 10,000	60	418,715	140	963,000	262	1,837,054
Total 5,000 +	106	2,314,515	263	8,028 011	622	19,763,264
Total in towns under 5,000 and assumed to be mainly rural in character		6,578 021		9,899,598		9,239,261
Total Population		8,892,536		17,927,609		29,002,525

Source: Weber A.F., The Growth of Cities in the 19th Century; Cornell U.P. 1967.

Note: These totals have been subsequently corrected by the D.O.E. Interdepartmental Study Group, in their Report on the Long Term Population Distribution of Great Britain, (H.M.S.O.). See Table 23.

TABLES ACCOMPANYING DIAGRAM no. 60

TABLE 20

NATIONAL INCOME (£ millions)

	Agric. Forest. Fishing	Mining Manufac. Building	Trade Transport	Rents Dwellings	Total Gross National Income	
					Not adjusted	Adjusted for consumer price index 1688
England & Wales						
1688	19.3	9.9	5.6	2.5	48	
Great Britain						
1801	75.5	54.3	40.5	12.2	232	160
1821	76.0	93	46.4	17.9	291	295
1851	106.5	179.5	97.8	42.6	523.3	726
1871	130.4	348.9	201.6	69.4	916.6	1143
1881	109.1	395.9	289.6	104.0	1288.2	1615
1901	104.6	660.7	383.0	134.2	1642.97	2200
1924	168.5	1655.9	1234.0	265.2	4121.1	3700
1935	175	1720	1367	292	4516	3240
1955	787	8101	4051	534	15497	4400

Source: Cole W.A., British Economic Growth, 1688-1955, C.U.P., 1962, and Mitchell and Dean, p.366.

TABLE 21

SUMMARY OF TRENDS OF POPULATION INCREASES (mainland Britain only)

	Millions		
	Total	Urban (5000+)	London
1688	5.5	1.5	.4
1801	10.5	2.5	1.1
1851	20.7	10.4	2.3
1891	33.0	23.4	4.2
1926	43.4	28.0	7.9
1951	49.2	39.0	10.0
1969	54.0	48.0	11.0

Source: Weber A.F., The Growth of Cities in the Nineteenth Century, pp.40-63. D. of E., Interdepartmental Study Group, Long Term Population Distribution in Great Britain - A Study. (H.M.S.O.)

TABLE 22 : GOVERNMENT INCOME (£ millions)

	Expen-diture	Customs	Excise	Stamps	Post Office	Land & Assessed Taxes			Total net income	
									Not ad-justed	Adjusted
1688-91	11.543	1.92	2.43	-	.163	3.172			8.613	8.6
1701	3.442	1.583	.986	.094	.075	.991			3.769	4.7
1726	5.543	1.427	2.659	.157	.095	1.140			5.578	7.3
1751	6.425	1.588	3.468	.134	.106	1.769			7.097	10.0
1776	14.045	2.684	5.383	.383	.172	1.875			10.576	17.5
1801	50.991	6.785	10.594	2.621	?	5.093			31.585	21.7
		Customs	Excise	Stamps	Telephone Post Off. Telegraph	Land and Assessed Property Tax	Property & Income Tax	Death Duties		
1826	54.1	18.7	22.6	7.7	2.2	5.4			57.7	58.0(c.)
1851	54.7	22.0	15.3	6.7	2.3	4.6	5.5		57.1	76.1
1876	74.7	20.0	27.6	4.4	7.2	2.5	4.1	5.8	75.5	94.6
1901	193.3	26.6	38.4	7.8	17.3	2.5	26.9	17.2	140.2	188.2
1926	776.1	103.5	134.6	24.7	57.5	.7	259.4	61.2	812.1	679.0(c.)
1939	1,005.7	226.3	114.2	21.0	89.0	-	335.9	77.4	1,006.2	678.0(c.)
1951*	4,221.8	905.2	724.8	54.5	84.3		1,404.0	185.2	4,197.2	1,520.0(c.)

*Surtax and Profit Tax - 452.9 Motor cars - 65.0

Source: Mitchell and Dean, op.cit.

TABLE 23 - ADJUSTMENT OF VALUE OF THE POUND STERLING TO A CONSTANT BASED ON THE CONSUMER PRICE INDEX OF THE POUND IN 1688

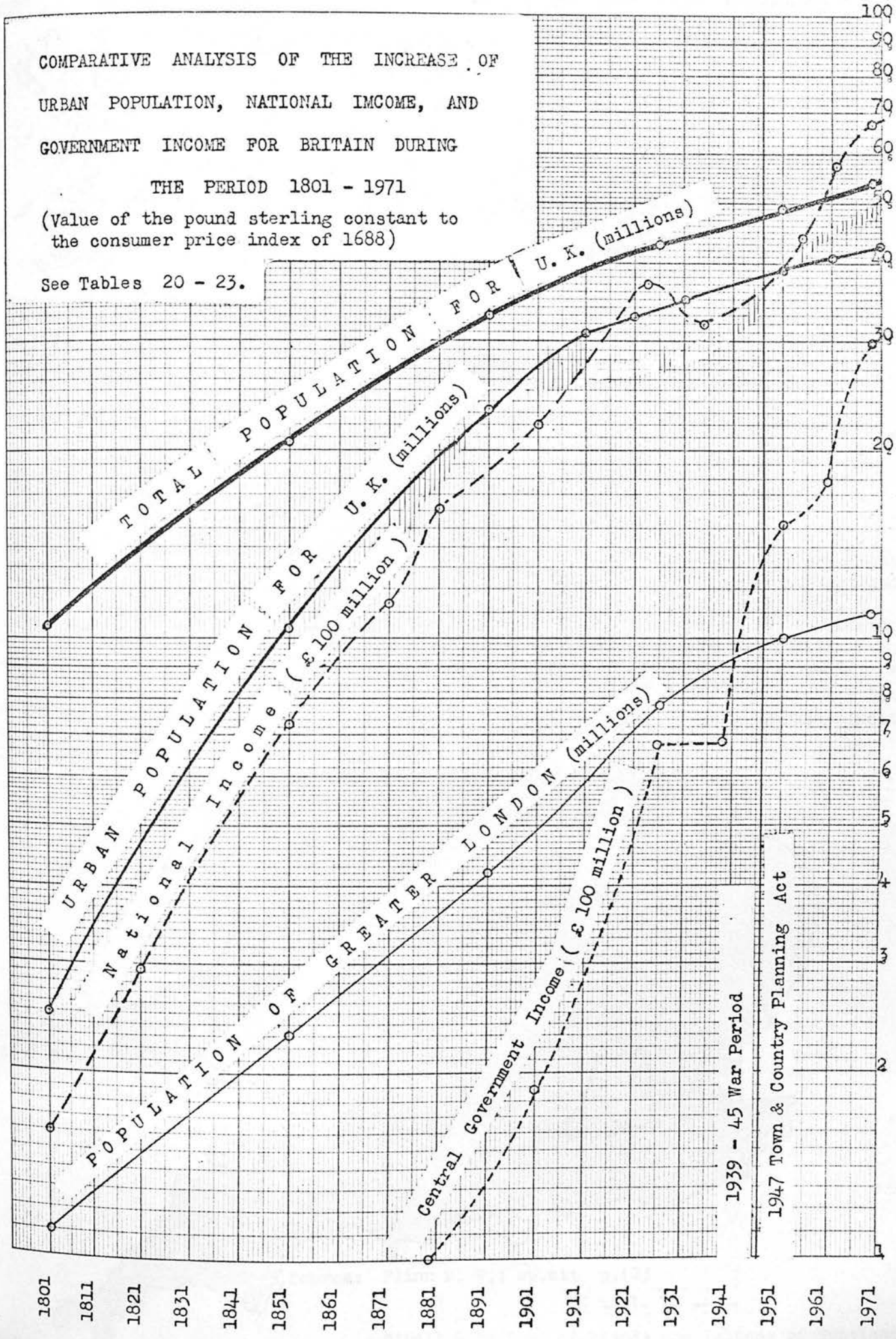
Notes accompanying Diagrams 21 and 60

	Adjustments of Indices	Adj. to equal £ in 1688	Gross National Income (millions)		Government Income (millions)	
			Recorded Values	Adjusted to 1688 value	Recorded Values	Adjusted to 1688 value
1688	100	100	48		8.6	
1701	80/100	80			3.8	4.7
1726		75			5.5	7.3
1739	89/100	71				
1751		70			7.1	10.0
1776		60			10.5	17.5
1801		145	232	160	31.5	21.7
1821	139/100	99	291	295		
1850		72	523	726	57.1	76.1
1865	80/100	79				
1871		80	916	1143		
1876		80			75.5	94.3
1881		80	1288	1615		
1901		75	1642	2200	140.2	188.2
1914	106/100	86				
1947	203/100	174				
1950	158	275			4197.2	1500.0
1952	132/100	230				
1955	154	352	15497	4400		
1956	153/100	350				
1960	109	382			6800	1780
1962	117/100	404	23298	5750		
1969	131	532	35418	6630	15867	2990
1970	145	582	38688	6630	17965	3090

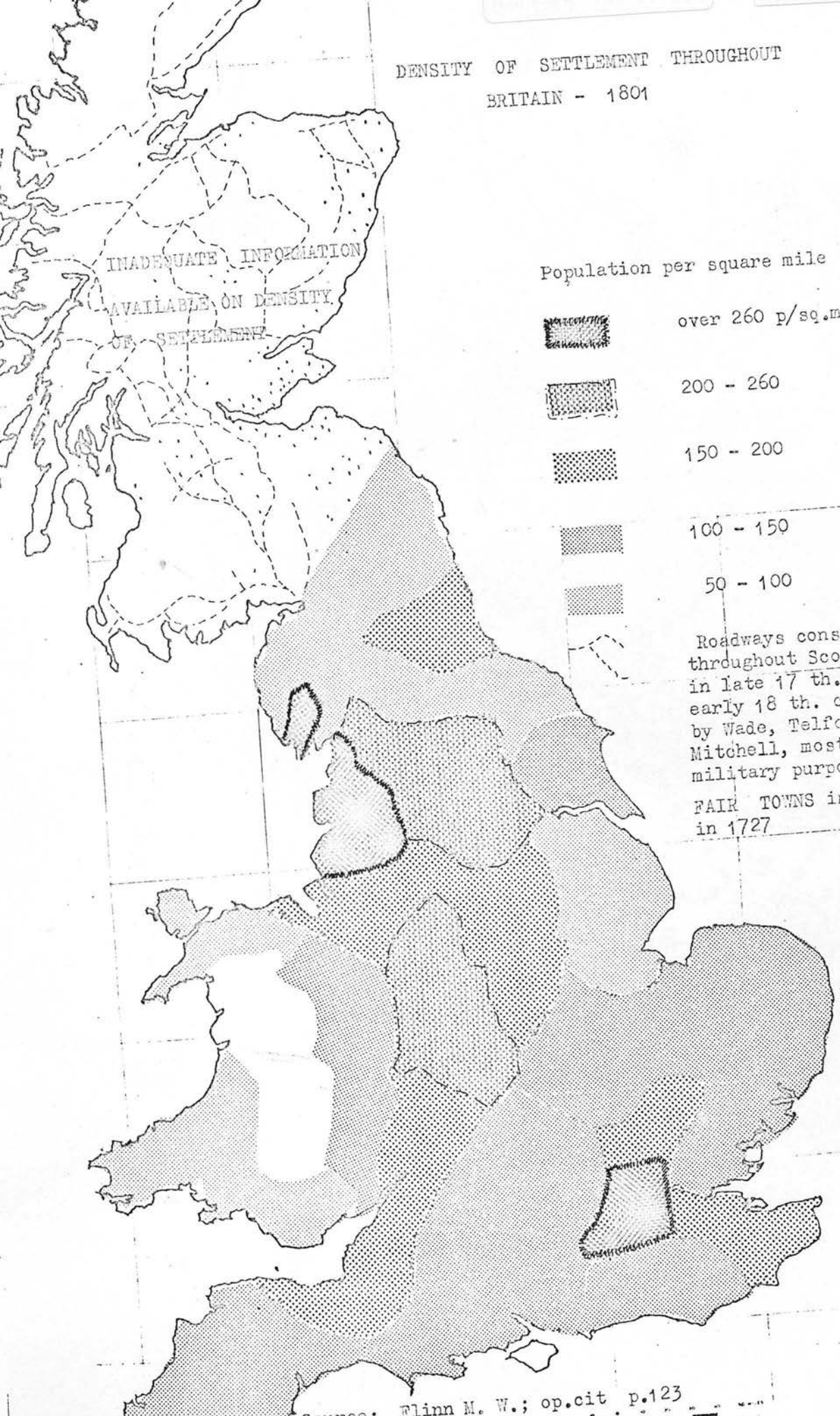
Sources: Mitchell and Dean, Abstract of British Historical Statistics, pp.465-500; Department of Employment, Abstract of Statistics, 1914-1971; Butler and Freeman, British Political Facts, 1900-1968; C.S.O. National Income and Expenditure, 1972, HMSO.

* Price indices prepared: Schumpeter-Gilboy, 1661-1823
Gayer, Rostow and Schwartz, 1790-1850
Rousseaux, 1800-1913
Sauerbeck-Statist, 1846-1938
Board of Trade Wholesale Price Index, 1871-1938.

DIAGRAM No. 60

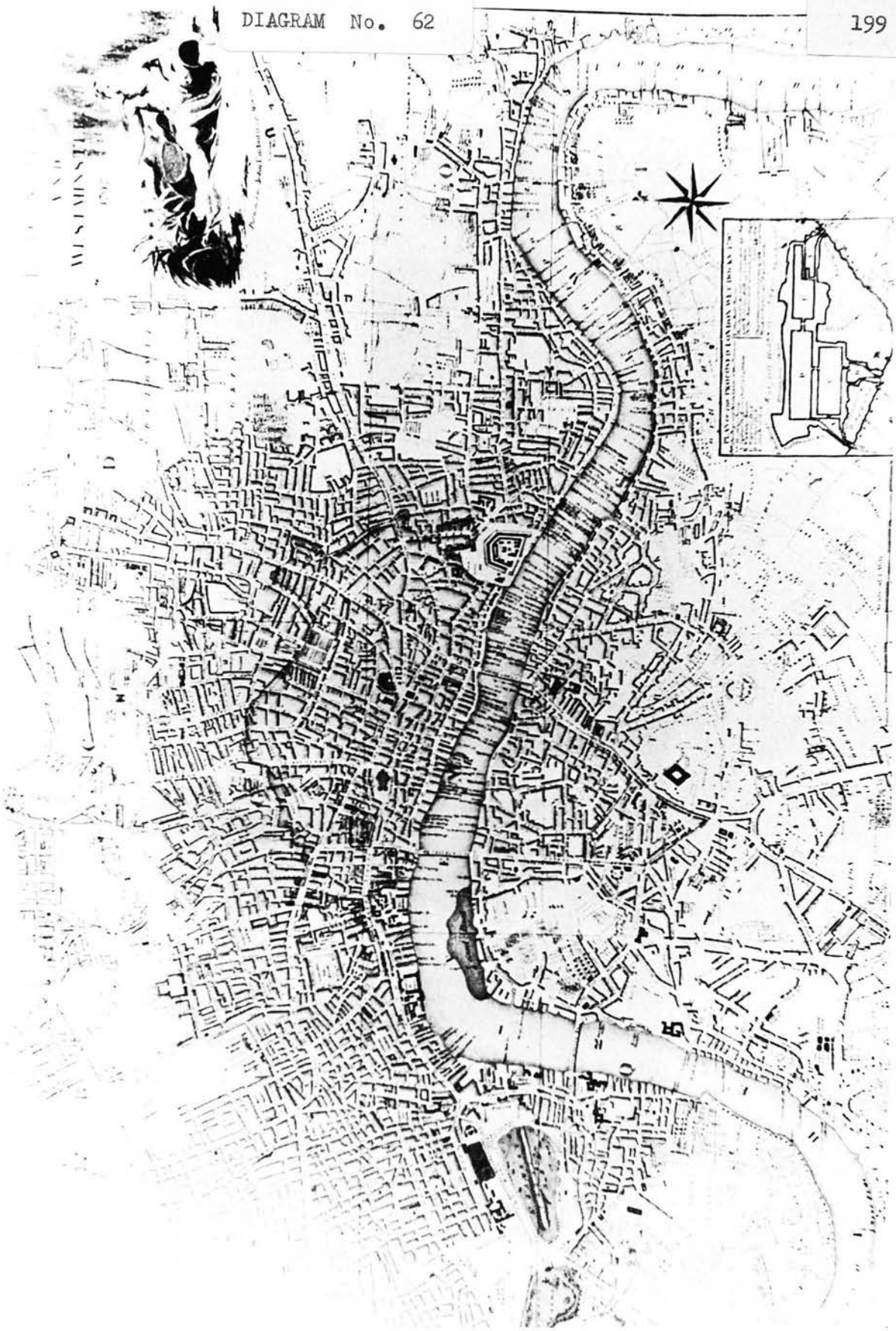


DENSITY OF SETTLEMENT THROUGHOUT BRITAIN - 1801



Source: Flinn M. W.; op.cit p.123

Highlands and Islands of Sc



THE SPREAD OF LONDON BY 1797.

Section 2. Towns, Trade and Transport

The organization of a national economy based on a complexity of manufacturing industries, which meant a major re-orientation and change from an economy based on agriculture, had been possible only because of a series of developments and circumstances interacting upon each other; these were the vast undeveloped markets overseas, the abundance of cheap food from the economically under-developed countries, and the efficient and well-protected maritime fleet. In Britain, there had been the growth of the joint stock banks, the construction of an infra-structure for hauling large quantities of products from factory to port, and vice-versa, the canals and the railway system, by which constant haulage of heavy products using minimum land and maximum haulage capacity was possible, and the inauguration of the limited liability company, and above all, the rapidly growing urban structure, which is so often taken for granted. The 1844 Registration of Companies Act allowed companies to go to law as legal corporations, but the liability of the investor for any damages caused was limited; this offered a whole new range of security in industrial investment for institutional investors, insurance companies, pension funds, etc., and provided the incentives for the investment of the small savings of millions of people into industry.

Another contributory factor to the rapid economic growth through increased industrial output was the regimentation of vast armies of cheap labour, which were herded together in the rapidly expanding slum areas of the nineteenth century towns and cities.

Throughout the history of the urban growth process, whether in Britain or anywhere else in the world, towns have grown up on a locational control factor; at cross-roads, crossing rivers, at ports, and sometimes for defence; these towns are a link in the commercial life and economic activity of the country, involving the movement of goods and products for trade and commerce. Many a new town in the urban history of Britain has had its origin linked directly to lines of communication and the transport network of the country. On the coast, the towns of Portsmouth, Liverpool, Hull, Boston, King's Lynn, Harwich, North and South Shields, Falmouth, Devonport, Whitehaven and Port Glasgow were planted as ports, and have survived. There are just as many town plantations which are now

no more than hamlets, some of which have ceased to function as a settlement at all, such as the original ports of Ravenserodd, Skinburgh, Warenmouth, New Winchelsea, Hedon, the Looes, and Newton (Dorset). The key to the prosperity of a town can always be found, in varying degrees, in the symbiotic relationship of town, trade and traffic.(45)

The beginning of the commercial revolution in the seventeenth century, leading into the eighteenth century, revived the practice of town-building, firstly with port-building, such as at Falmouth, Whitehaven, Devonport and Port Glasgow.

For each port town which was planned and built, and given a charter by Parliament to trade, there were several existing towns nearby which would suffer loss of trade, and would petition against the Act. The political structure of Parliament at the time, being what it was, provided little solace to the petitioners.

Previously, in the sixteenth and seventeenth centuries, there had been a political awareness at national level of the need to accumulate capital; the joint stock system had been introduced and was working well. The commercial revolution brought with it the evolution of a transport system by which it could prosper; sea transport, both for deep-water craft and coastal haulage was an absolute necessity, and had been recognized as such as early as 1381, when the first Navigation Act was passed. Concommitant with the growth of the ports was the road system connecting the ports and other sources of material with the centres of production; this ultimately brought about changes, innovations and improvements in road-haulage vehicles. However, the resources and the ability to construct the roads which could take constant heavy loads were not available until Macadam carried out his experiments and published his essay on the 'Scientific Repair and Preservation of Roads', 1819, and his treatize on 'The Present State of Road-making', in 1820; nearly a century was to elapse before adequate road construction for the national infra-structure, and adequate automotive vehicles for large-scale haulage were to be introduced.

The commercial expansion of the British merchants had to be supported by a transport system, and this was being provided by coastal shipping; this in turn required adequate ports, by which many a port town emerged in the eighteenth century, usually based on the export of coal and minerals. In

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(45) Bell, C. & R., City Fathers, The Early History of Town Planning in Britain, Cresset Press, 1969. Other references for this section; Clapham Sir John, The Economic History of Modern Britain, 1820-1850, (The early railway age), Cam. U. P., 1926.

some cases, the owners or companies provided housing of a sort for the technicians, but rarely was any consideration given to housing the labourers and their families.

A road system followed to support the operation of the ports, but only when private enterprize could identify a profitable undertaking for their turn-pike roads.

Road building was extended throughout Scotland in the eighteenth century, but these were mostly for military purposes, and although the foundations for some settlements were laid, they did not prosper as towns.

The Industrial Revolution which followed the commercial revolution produced two new types of 'transport town' besides those related to the road, the bridge, the ford, or the ports; the eighteenth century produced those related to the canals, and the nineteenth century those related to railways. In the nineteenth century, a large part of capital available for investment from every source, was being devoted to the new infra-structure laid by the railways.

In 1846, with 2,000 miles of railway under construction, (there were already 2,500 miles already laid) it is estimated that more than a quarter of a million men were employed directly in the construction or operation of the railways, this being out of a population of nineteen million, of whom approximately seven million were employable. Their wages were estimated to be approximately 2% of the national income. The consumer spending, plus the £150 million capital raised by the companies between 1846 and 1850 did much to contribute to the expansion of the entire national economy.(46)

Previously, in the eighteenth century, the canal system, in its construction, maintence and operation, had become a major industry in itself, with a large number of people employed in barge construction, operating the locks, stores, loading and unloading, etc., and permanent settlements emerged in support of these workers. These settlements, although new, were not in the nature of planned new towns.

Although the haulage capacity of the canals was considerable, as a means of transport it was slow, and the choice of routes limited. In response to the need for a rapid heavy haulage and transport system the railway system was inaugurated in 1825. The first company to use steam

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(46)

Trevelyan, G.M., Illustrated English Social History, Book 4, (Longmans Green, 1942, Pelican 1960) pp. 121-181.

locomotives was authorized to run between Stockton and Darlington; railways had been used before then, using horses and small carriers. The capacity of haulage by the new steam locomotive, with much larger and stronger carriages to haul many more tons of coal and produce was greatly increased.

This was the era of transition for the commercial society from the horse to mechanical and steam-powered locomotion, causing it to expand into an industrial commercial society.

Unlike the canals, the railways required vast new workshops and junctions, needed more iron and steel to support their own operation, and generated completely new multiple industrial complexes, which interlocked with so many of the manufacturing, servicing and distributive trades. They introduced a completely new system for the cyclical expansion of the national economy, encompassing the coal, iron and steel, engineering industries, docks and shipping and the entire transport industry,and were soon to have a profound effect on the mobility of labour, and therefore, on the distribution of settlement.

A whole new urban settlement pattern followed the railway lines, and a series of new towns, dependent entirely upon the railway,industry emerged; "Middlesborough, Crewe, Swindon, Wolverton, Eastleigh, Barrow-in-Furness were all the feudal plantations of a new aristocracy; the railways even created their own sea-side towns, by providing special excursions to Skegness, Cleethorpes, Mablethorpe."(47) The railway companies began to dominate the entire national transport and haulage systems, buying up canal companies to eliminate competition, vying among themselves for the control of ports and even shipping companies, on which their own enterprize might profit that much more.

The consequences of town growth, (or decay,) brought about by the policy of selection by the railway companies appear to be arbitrary, and not in accordance with any regional strategy for development, but of short-term convenience; Rhyl, Colwyn Bay and Llandudno, Skegness were resort towns virtually re-made by the railway companies. Existing towns, such as Beaumaris and Freeston Shore were outside the companies' interest, not in their communication link, and were excluded from the convenience of rail access.

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(47)

Bell, C. & R., op. cit., pp. 111-164

Middlesbrough was the foremost example of the growth of the British Rail town. In 1862, when Gladstone came to honour it, the population was already 20,000; by 1891 it had grown to 75,530, and by 1951, although the population in its own jurisdictional area was in excess of 147,000, it had so grown and extended itself that it embraced the entire County Borough of Teeside.

Despite the good intentions of the entrepreneurs, the town eventually grew up to have some of the most appalling slums in Britain. Much the same can be said for so many of the transport, commercial and industrial towns which grew with such rapidity, leading and chasing, at the same time, the extraordinary economic growth rate of the nineteenth century.

The first impetus to build the railways came largely from groups of active businessmen in the great cities, like the 'Liverpool party' which was responsible for the building of Crewe.(48) Some new towns, like Barrow-in-Furness, owed their dynamism to railway interests and to men like James Ramsden, who was a Railway Superintendent in 1846.

Many towns without railways withered away. It narrowed the gulf between urban and rural life, and transformed the outlook and prospects of the villages and many market towns; in the process, it caused large tracts of countryside to become neither truly rural, nor urban.

Railway building often led to drastic changes in the urban growth pattern, usually in the poorer parts of the cities; slums were often pulled down without much care, if any, being given to re-housing the slum dwellers, which only caused them to move into and further overcrowd other slum areas. Manby Smith wrote of "the deep gorge of a railway cutting, which has ploughed its way right through the centre of the market gardens, and harrowing beneath the carriage road, and knocking a thousand houses out of its path, pursues its circuitous course to the city."(49)

The railway, though a symbol of progress, also came to be feared by many of the poor in the mid-Victorian cities. The building of local and suburban railway lines frequently determined the main lines of suburban growth.

Although there were many people in Victorian cities who enjoyed a very high standard of housing, (built by entrepreneurs such as Thomas Cubitt), H.G. Wells felt very strongly about the living conditions for those who did not share in the prosperity of the time. In his 'Experiment in Autobiography'

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(48) Chaloner, W.H., The Social and Economic Development of Crewe, Econ. History Series, Manchester U.P., 1951.

(49) Smith, Manby, Curiosities of London Life, 1853, p.361.

See also, Barker T. C. and Robbins M.; A History Of London Transport, Vol. I, The Nineteenth Century, Allen and Unwin, 1963.

he emphasises that history fails to realize what sustained disaster, how much massacre, degeneration and disablement of lives was due to housing of people in the nineteenth century. We can now see more clearly, in retrospect, the appalling living conditions in Victorian cities, the absence of amenities, the brutal degradation of natural environment, and the inability to plan, or even to conceive of the city as a whole.(50)

There is truth in Lewis Mumford's remark, "the new industrial city had many lessons to teach; but for the urbanist its chief lesson is in what to avoid."(51)

The great industrial cities came into existence on the new economic foundations laid in the eighteenth century with the growth of towns and the expansion of industry. The pressure of rapidly increasing numbers of people and the social consequences of the introduction of new industrial techniques, and the new ways of organizing work involved a sharp break with the past. But was there any alternative?

Economic individualism, the initiative and daring of private enterprize, was difficult to reconcile with common civic purpose, as the Barlow Report was to point out 100 years later.(52)

During the early and middle years, house building was usually left to the small speculator of limited resources. There were some examples of working-class self -help through freehold land societies, (the initiative for this stemmed from Birmingham), many examples of capitalist philanthropy, with mill-owners and railway companies building and letting houses, and a marked growth of Building Societies, and Housing Associations. One of the earliest was the Metropolitan Association for improving the Dwellings of the Industrious classes, founded in 1844. The Peabody Trust was set up in 1862.

The Cheap Trains Act, 1883, compelled the railway companies to offer workmen's fares as and when required by the Board of Trade, and was deliberately designed for 'further encouraging the migration of the working classes into the suburbs' in order to relieve housing congestion in the central areas.(53)

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(50) Wells, H.G., Experiment in Autobiography, vol. 1., 1937, p.272, c.f. Victorian People, p. 14.

(51) Mumford, Lewis, The City in History, (Pelican, 1966)

(52) The Barlow Report of the Royal Commission on the Distribution of Industrial population, Cmd. 6153, H.M.S.O., 1940, para. 406. See Section 6, p. 235.

(53) Pope, S.A., The Cheap Trains Act, 1906, p.15.

The City of London first lost population between 1801 and 1811. In Liverpool, in 1851, the census recorded the population peak at the crowded wards of the centre, and by 1871, all centre wards were losing population. A similar trend was appearing in Birmingham, Leeds, Kirkgate and Bradford, where whole central area districts became the 'blighted belts', but the houses and the poor families remained.(54)

Trams, introduced in 1860 by an American engineer, George Francis Train, served the same purpose. By the end of the era, after the Tramways Act, 1870, sixty-one local authorities owned tramways, and eighty-nine undertakings were managed by private enterprize. These trams opened up the easier means for the crowds to get to football grounds, to holiday displays in public parks, etc., and more importantly, a convenient means of access from the suburbs to a place of work in the town centre.

The first electric train ran in 1890, although the first underground 'open cutting' from Paddington to Farringdon Street, began operating as early as 1863. The Inner Circle, in Metropolitan London, was completed in 1884. The direct link between transport and urbanization was now firmly established.

It was not until after 1870 that the health conditions in the poorer parts of the cities began to improve; over the period from 1841 to 1851, the national death rate was 22.4 per 1000 per annum. Even by 1876, it was still over 20. Cholera still took its toll in the slum areas, and as late as 1868, the journal 'Punch' carried a cartoon depicting the street conditions behind Oxford Street, with the poor scavenging around the refuse heaps - a scene to be found in many towns and cities of the developing countries today. Infant mortality rates remained constant at 150 live births per 1000.

Already theories and policies of environmental control were being propounded. Dr. John Snow, speaker at the Social Science Congress in Bristol, in October 1869, was reported as follows:

"Our present machinery must be greatly enlarged, radically altered, and endowed with new powers, above all, with the power of doing away with that form of liberty to which some communities cling, the sacred power to poison to death not only themselves but their neighbours."

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(54)

Briggs, A.;Victorian Cities, Pelican, 1968, p.312.

The lack of general concern for social costs was related not only to the pressures of urbanization, but to industrialization. The city offered external economies to the business man; it was all too easy to forget that the economies entailed social costs as well.

Nuisance Removal Acts had been passed in 1846, '55, '60, '63, and '66, but 'nuisances' remained unchecked. Sir John Simon, the great Sanitary Reformer, took over where Chadwick left off, and claimed, in 1868, that disease, resulting from the non-application (or sluggish application) of the nuisance laws, accounted for a quarter of the entire mortality of the country.(55) The Sanitary Commission, 1869-71, collected ample evidence concerning ignorance, petty jealousies and the unwillingness of the mid-Victorian Local Boards of Health to spend money. This was the prelude to the setting up of the Local Government Board in 1871. This was followed by the Public Health Act in 1872, followed by the Comprehensive Public Health Act of 1875. This Act divided the country into urban and rural sanitary districts with clearly defined duties. Also in 1875, the Artisans' and Labourers' Dwellings Improvement Act was passed.

The Municipal Reform Act of 1835, which had re-organized local government in 263 places which had previously enjoyed chartered or prescriptive municipal privileges, paid relatively little heed to functions. Scope was left for great diversity both in reformed corporations and the newly incorporated towns, and this inevitably implied that the early and mid-Victorian cities would confront urban problems with differing degrees of imagination and efficiency. Grants-in-aid from Central Government were introduced, at this time, as a means of assisting the municipalities in their re-organization.

By the Acts of 1872 and 1875, all municipal boroughs, local board districts and towns with improvement commissions were termed "urban sanitary districts" and to these authorities were transferred all the powers and duties previously exercised by any other authority in the District under the provisions of acts relating to local government, utilization of sewerage, removal of nuisances, regulation of common lodging houses, and bath and wash houses for the prevention of diseases.

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(55)

Edwin Chadwick, Secretary of the Poor Law Commissioners.
Lambert R., Sir John Simon, English Social Administration, 1963.

The growth of cities was characteristic of Victorian achievement, overwhelming in scale but limited in vision, creating new opportunities but also making massive new problems. Perhaps their most outstanding features finally were those which were hidden from view - the hidden network of pipes and drains and sewers, one of the biggest technical and social achievements of the age, a sanitary system more comprehensive than the transport system.

Their surface world was the manifestation of an un-planned product of the private enterprize economy, with linkages to the older, but changing traditional society. One of the great Blue Books of the 1840's put it that "more filth, worse physical suffering and moral disorder than Howard described as affecting the prisoners, are to be found among the cellar population of the working people of Liverpool, Manchester, or Leeds, and in large portions of the Metropolis."(56)

As Asa Briggs reminds us, "There is need to devote adequate attention in all studies of Victorian cities both to the relationship between qualitative and quantitative evidence, and to the administrative significance of the late-Victorian reforms which identified differences between the best and the worst, and pointed to the need for more active national policies of social control ..... At the end of Victoria's reign, the cities remained confused and complicated, a patchwork of private properties, developed separately with little sense of common plan, a jumble of sites and buildings with few formal frontiers, a social disorder with districts of deprivation and ostentation."

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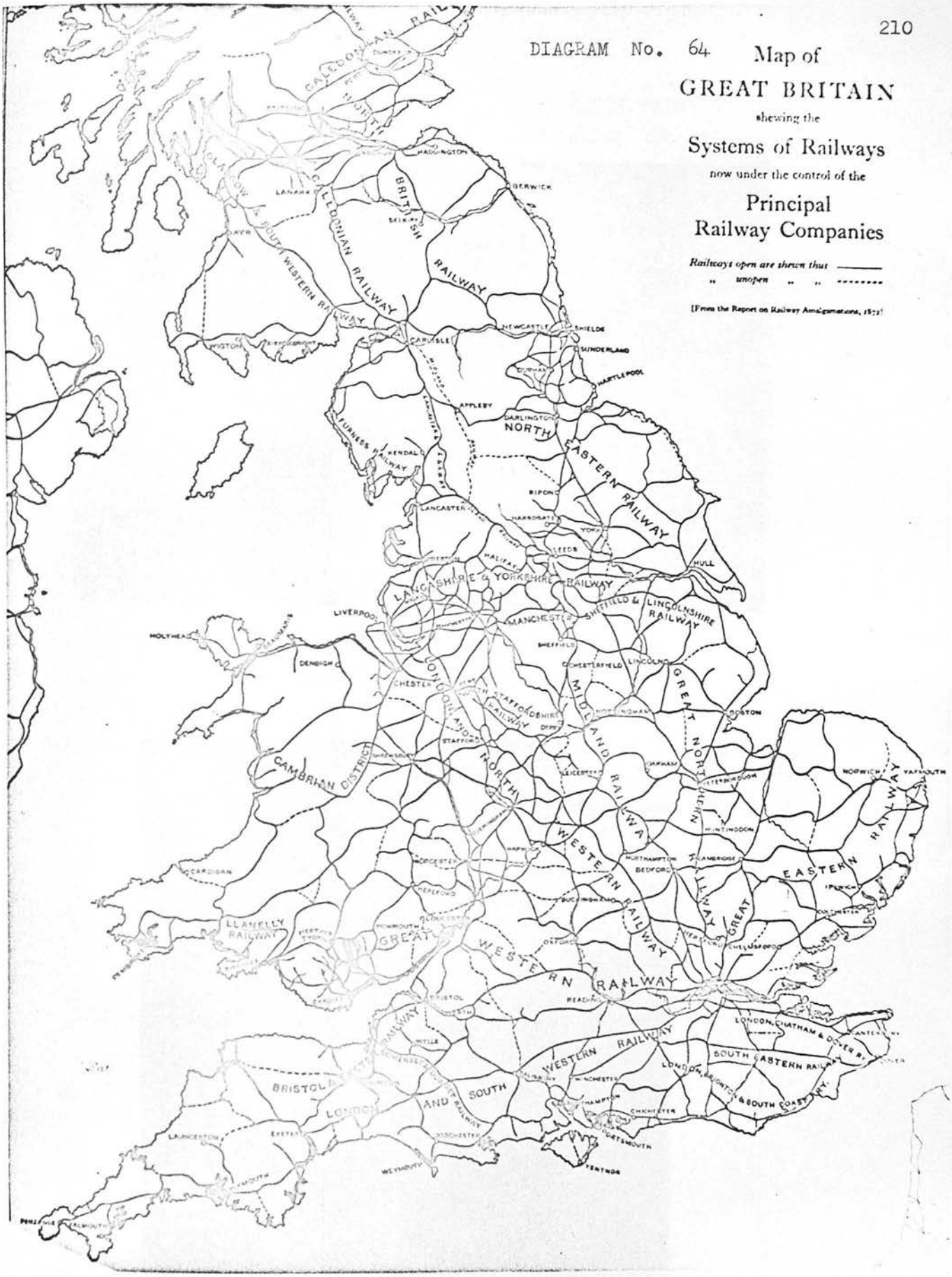
(56)

Trevelyan, Book 4., op. cit., p.128.

DIAGRAM No. 63

CANALS AND NAVIGABLE RIVERS THROUGHOUT ENGLAND AND WALES
by 1872

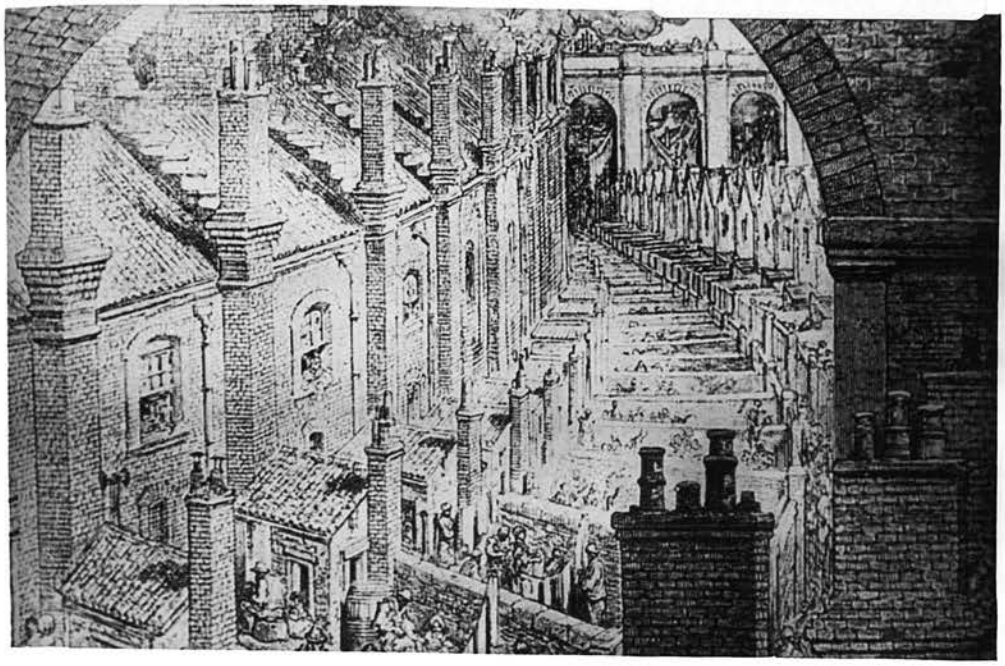
From Clapham, J. H.; AN ECONOMIC HISTORY OF
MODERN BRITAIN, (1850-1886), C.U.P.,1932, p. 199.



RAILWAY SYSTEM THROUGHOUT BRITAIN BY 1872

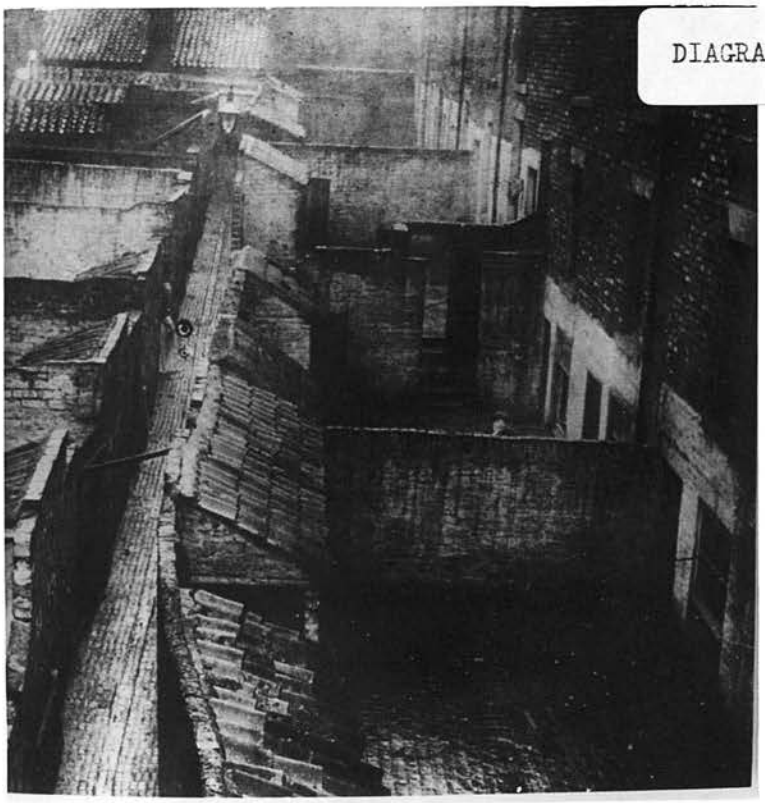
op. cit., Clapham, p. 185

DIAGRAM No. 65



' OVER LONDON BY RAIL " by DORÉ

DIAGRAM No. 66



An example of the Railway Housing in MIDDLESBROUGH in the 19th. century.

op. cit., Bell, p. 142

DIAGRAM No. 67

CLEARANCE OF PROPERTY IN LONDON FOR THE FARRINGTON ST. METROPOLITAN RAILWAY STATION (c. 1860)

DIAGRAM No. 68

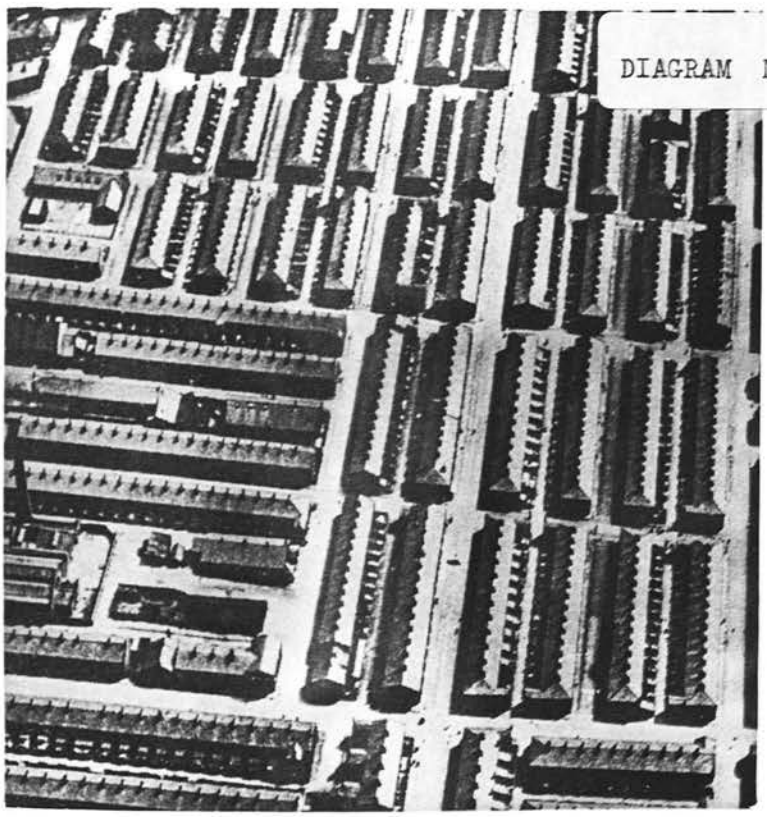
METROPOLITAN RAILWAY WORKMENS TRAINS (c. 1864)

From: Barker T. C. & Robbins M.: A HISTORY OF LONDON TRANSPORT, Vol. I, Allen & Unwin, 1965, pp. 115 & 118.

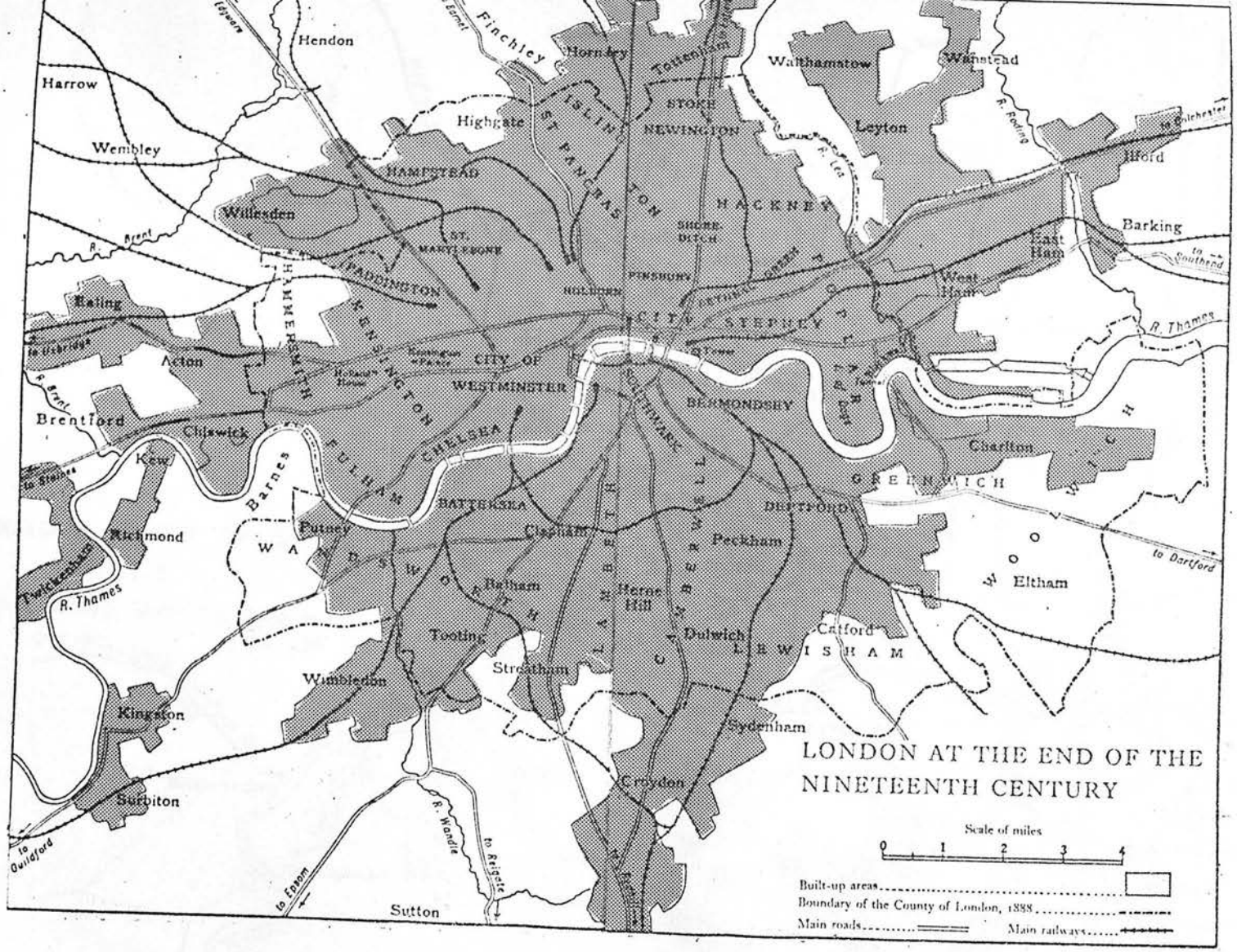
DIAGRAM No. 69

" THE COURT OF KING CHOLERA", SLUMS BEHIND OXFORD ST.,LONDON, 1864.
(Illustration from PUNCH, 1864)

DIAGRAM No. 70



WORKERS HOUSING IN BURNLEY, LANCASHIRE,
IN THE LATE 19th. CENTURY
(Trevelyn, op. cit., Book 4, p. 122)



THE SPREAD OF LONDON BY THE END OF THE 19 th. CENTURY (c. 1888)

(Trevelyan, Book 4, p.236)

DIAGRAM No. 71

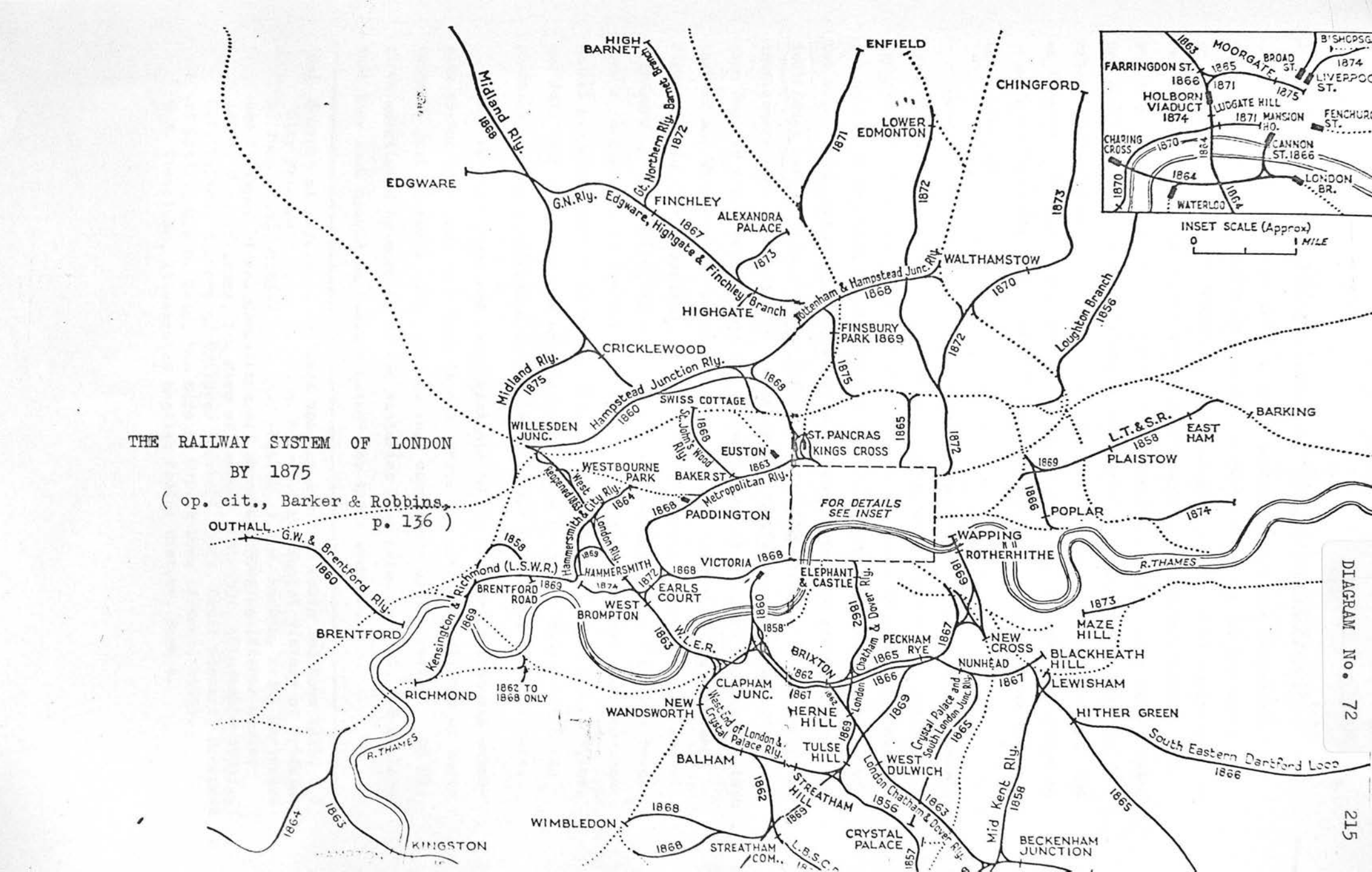


DIAGRAM No. 72

3. The Enlightened Industrialists. Healthy Housing for Workers(++)

During the late eighteenth century and throughout the nineteenth century, there were reformers who called for better housing for the underprivileged, and for the design and creation of a proper human environment in the towns. The example was set by some companies and entrepreneurs, who suddenly found themselves in the role of town developers; many had no option but to set up their manufacturing or industrial process in open country, on rivers or near sources of water, where the mineral deposits were located, and as they were dependent upon regularly employed skilled labour, they tried to provide an incentive for their workers in the form of decent housing and accommodation.

Despite the presence of vast urban slums in the transport and industrial towns of the age, or possibly because of them, or because of the cultural aspirations of the age, and the accumulation of wealth by the land-owners, the notion of new town plantation was revived in Britain towards the end of the eighteenth century; this notion was transformed into practice by the individual land-owners and some industrial entrepreneurs. In some cases, the land-owners were prompted more by the desire to tidy up their own estates, than for any other reason, and their town layout was no more imaginative than that of New Winchelsea; in other cases, such as Lowther in Westmoreland, Blanchland in Northumberland, Harewood in Yorkshire, Milton Abbas in Dorset, Fochabers in Morayshire, Inverray in Argyll, and Archiestoun, the new towns were a re-location of the villages already on the estate, but using environmental planning principles of the age. Architects John Adam, Robert Mylne, and John Nash were employed on several of these projects, though often the planning was the inspiration and concepts of the owners and entrepreneurs.

Some entrepreneurs and industrialists in the upsurge of economic expansion at the time made an effort to ameliorate the living conditions of their workers, just as there were many who were completely disinterested. Of 881 firms questioned by members of the Factories Commission in 1833, 168 declared that they were providing "some housing" for their workers.

(++) Sources of reference for this section are from Colin and Rose Bell, 'City Fathers', Prof. M. Flinn, Economic and Social History of Britain, M. Juppenlatz, Cities in Transformation, J.E.B. Meakin, Model Factories and Villages, Ideal Conditions of Labour and Housing (Fisher Unwin, 1905), T.A. Williams, The Firm of Cadbury 1831-1931, (Constable 1931). C.L. Wilson, History of Unilever (Cassell 1951), Cecil Stewart, Prospect of Cities, G.H.D. Cole, The Life of Robert Owen (F.Cass, 1965), G.M. Trevelyan, Illustrated English Social History, Book 4.

With the introduction of steam power to industry, the production process was accelerated, and increased in scale, thereby creating more employment opportunities. Poverty in Ireland and throughout the rural areas caused large numbers of migrants to move into these new centres, especially Manchester, Liverpool, Glasgow and London. The living standards of these people had been low in their former domicile, and they brought their low standards of living with them when they came to these rapidly growing industrial cities and towns.

House building could not keep pace with the influx of people, many of whom would not have been able to amortize a loan on a house, or even pay the rent, had the industry been able to build, i.e. had the money, land, building materials and skilled labour been available in sufficient quantities to construct the number of dwellings needed.

In 1838, the Government had called for a report on the 'Sanitary Condition of the Labouring Population'. The report pointed out that many a proprietor would see it advantageous to build a few cottages; but these were often of the worst description. The consideration was not how to promote the health and comfort of the occupants, but how many cottages could be built upon the smallest space of ground and at the least possible cost.

There were those, however, such as Robert Owen in 1817, who saw the need for giving some attention to the people of the towns; he saw in the new industrial system of the day an instrument for the standardised improvement of town design and layout throughout the entire country; he saw it as a means of providing improved living and working conditions for the people as a whole. Owen propounded that environment makes character, and that our own environment is under our own human control. He believed that good work could be expected only from well-fed, well-clothed and educated workers.

State control in the interests of the working class was not an idea which found much favour with the rulers of Britain during the Napoleonic conflict. Robert Owen demonstrated that "industrialism" and "urbanism" could be, in proper combination, the means towards the continued socio-economic improvement of society; his thesis was that such a combination could be the means of continuing to provide good standards of living for the increasing population, the essential social aspects of growth and development, as well as the economic aspects. His proposal was that the government should encourage the establishment of agro-industrial villages throughout the land on a planned basis.

Though his total concept was not acceptable in his time, his ideals, and his demonstration for upgrading the human resources of the families, his provision of a firm economic base for the community, his limiting of economic profit and his reinvestment of capital gains in the balanced social development of the community, stand as a viable experiment which can be examined for application to the problems of the twentieth century towns and cities of the developing world. Colin and Rose Bell have come to the conclusion that "the broader view reveals quite plainly that today's enlightened capitalism, and the welfare state, are strongly in Owen's debt, not perhaps because his ideas were wholly novel, but because of the consistent success with which he put them to practice in New Lanark, if nowhere else".

The society, the architects and town planners, of his age had not acknowledged that there was any organic form to a city, nor that it contained any dynamics of its own form, but rather that it was built in the form of classical beauty, for the convenience of established society.

There were others, however, who adopted the "integrationist" idea of Owen in the planning, organization and management of the industrial community, though few were of his very high order of idealism.

Samuel Oldknow of Mellor developed his community and mill on similar lines in the late 18th century.

Edward Ackroyd of Copley provided houses with gardens, library, school, church, canteen for workers, and recreation grounds over the period 1847-63; some of this was financed by the Halifax Permanent Building Society.

Mr Moffat, the London architect, had already proposed, in 1845, the erection of villages, or garden suburbs, within a radius of four to ten miles of London, for those who wished to live in clean air and space, near woods and water. A company was floated to build such a suburban commuter's dream at Ilford, in 1848, in which the railway was to provide the means of fast regular transport.

In 1849, James Silk Buckingham published his "National Evils and Practical Remedies". It combined the principles of Owen with the plan for a Model-town Association (much of which was taken up later by Ebenezer Howard). Industry was to operate on an eight-hour working day, there were to be free medical services, child-minding centres, schools, baths, communal kitchens and laundries, a restriction on alcohol, tobacco and weapons, and the whole was to be built on a radial plan with factories on the perimeter, and with houses and public buildings located towards the centre.

Others began to take up this cause, among them Minter Morgan, in his 'Christian Commonwealth', advocating self-supporting trusts for housing 300 families at a time. More were showing an interest in the possibility of combining industrial growth with improved living standards; there were more examples of benevolent capitalism on the one hand, and the emergence of the Co-operative Workers' Society on the other.

Titus Salt structured his industrial community on the lines of a 'paternalistic baron', over the period 1853-63.

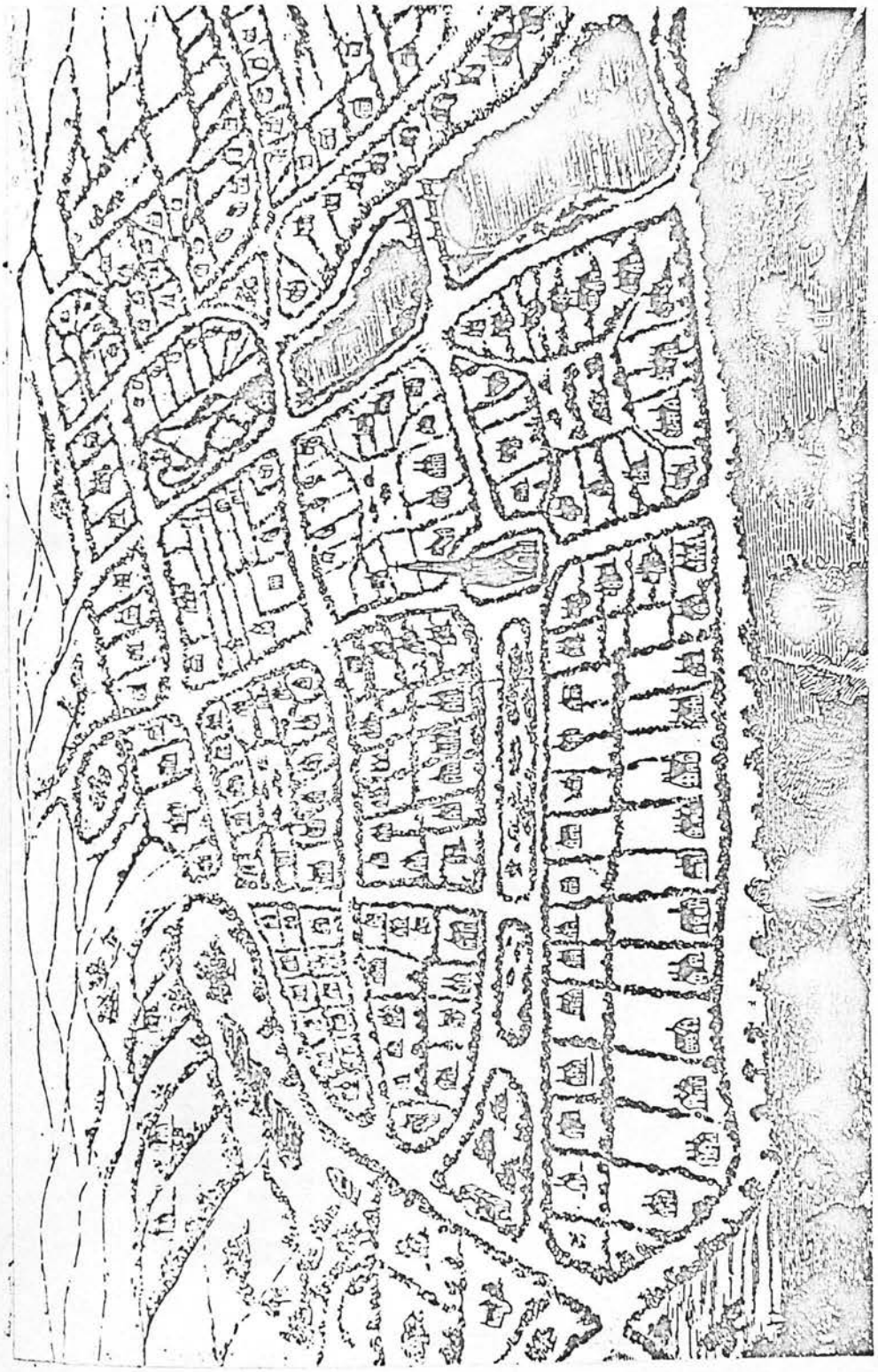
William Wilson moved his factory from Battersea to the cholera-free industrial village of Bromsborough in 1858, and provided houses with gardens for his workers, water-bourne sanitation, schools, cricket fields, bowling green, shopping centre and social clubs.

George Cadbury, in 1878, began to develop his Bournbrook Estate, which was in'a new clean situation, having access to water, canal, railroad and roadways'. By 1893, he was sufficiently assured of the continued prosperity of his factory to extend the site, and, as expressed in his Trust Deed, "alleviate the evils which arise from the insanitary and insufficient accommodation supplied to large numbers of the working classes, and of securing to the workers in factories some of the advantages of the outdoor village life". It should be recalled that the Public Health Acts of 1875 required little more than air space on two sides of the house. Cadbury ensured that light, space and ventilation was provided to all sides of the houses he built in Bournville.

The Lever Brothers began the construction of Port Sunlight in 1887, which, in the latter part of the 20th century, is still a high standard of residential development and a good example of environmental community planning.

During the latter part of the 19th century, there was the visual evidence of the abysmal squalor in the large industrial and manufacturing cities, along with examples of efforts by individual industrialists to arrive at a more rational method of integrating the industrial process with a civilized environment for the human content of the total process.

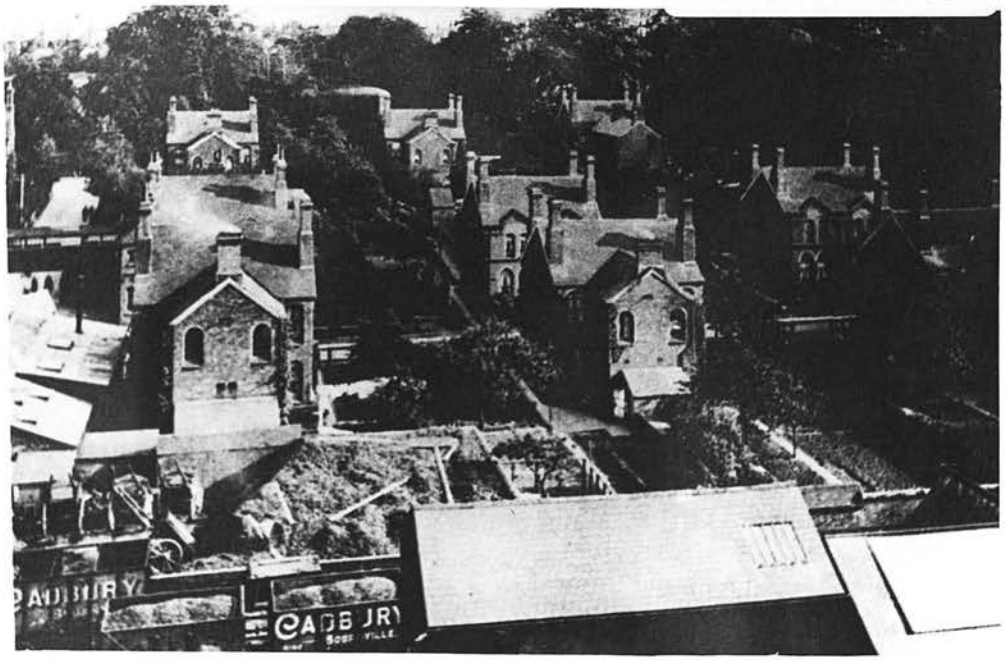
DIAGRAM No. 73



PROPOSED LAYOUT OF THE NEW VILLAGE OF ILFORD, 1848
" The Commuter's Dream "

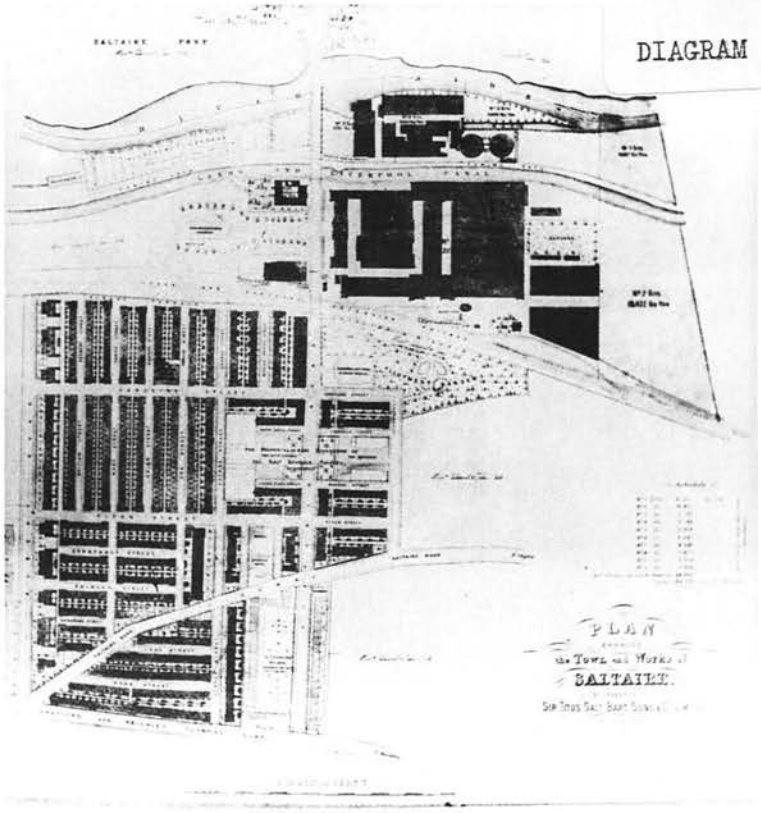
(Bell C & R, p.196)

DIAGRAM No. 74



HOUSING AND COMMUNITY STANDARDS SET AT BOURNVILLE - 1893

DIAGRAM No. 75

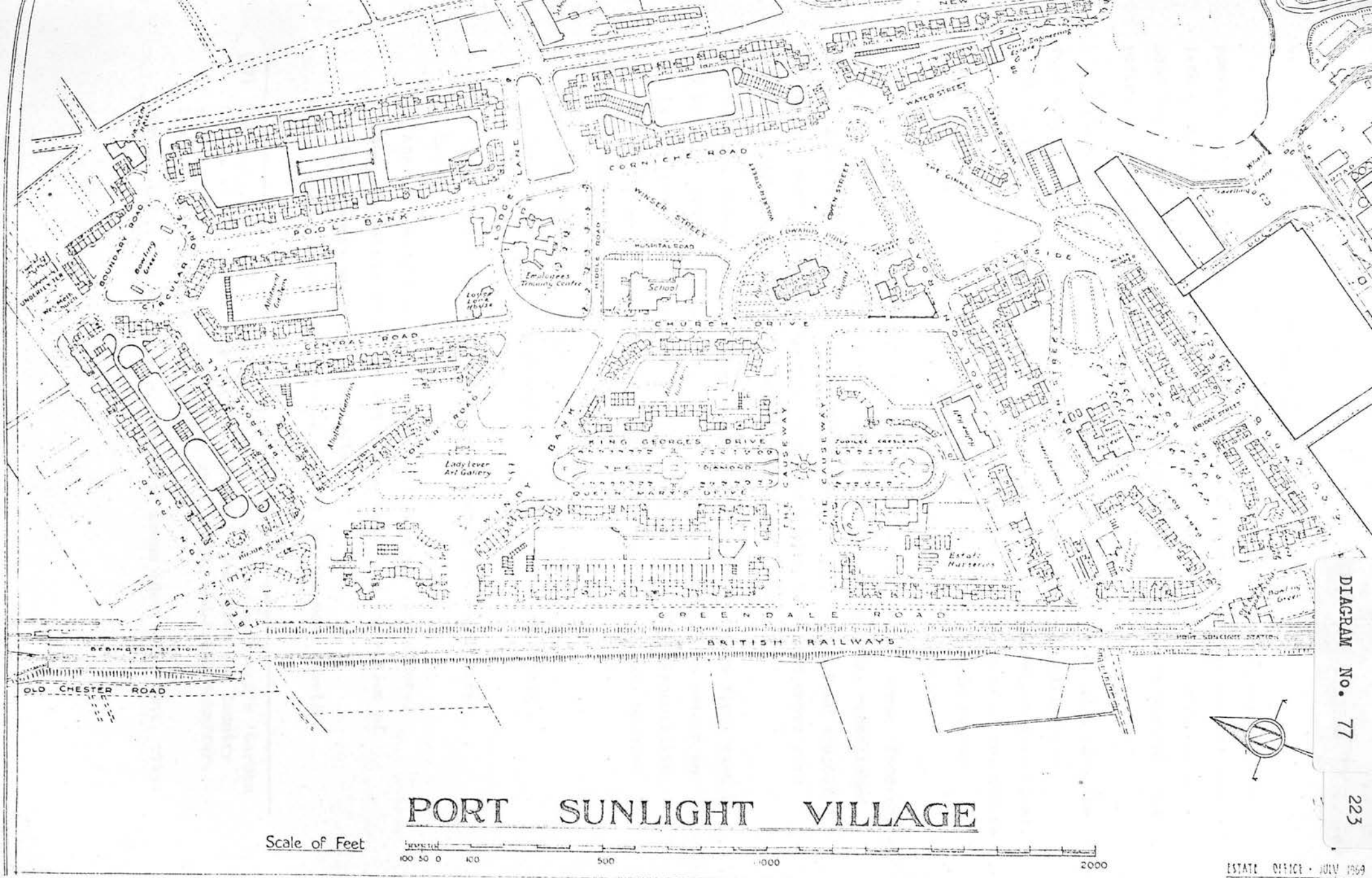


THE LAYOUT OF SALTIRE - 1856 to 1863

op. cit., Bell, p.271.

DIAGRAM No. 76

BOURNVILLE : Estate development by 1898



PORT SUNLIGHT VILLAGE

Scale of Feet

Imperial
100 50 0 100 500 1000 2000

ESTATE OFFICE · JULY 1969

DIAGRAM No. 77

223

4. Garden Cities - 'A peaceful path to real reform'[57]

Towards the end of the nineteenth century, with recurring economic depressions, with the rapid increase in urban squalor, with more poverty and lack of human dignity throughout the large industrial cities, there was a mood for reform, not necessarily one of changing to alternative systems, but reform in the structure of society.

Reform of local government by the Municipal Reform Act of 1835 laid the foundations for some change, especially for those aspects of daily life which confront the members of a community, (i.e. the town in which they live), but towards the end of the century, it was apparant that reforms in the nature and structure of the society, and an even more rational approach to the growth of industrial towns, with all its social evils, was needed.

Ebenezer Howard, formerly Clerk to the House of Commons, wrote 'Tomorrow - a peaceful path to real reform' in 1898, which was subsequently republished in 1902 under the title 'Garden Cities of Tomorrow'. It has been suggested that he had been greatly influenced by Edward Gibbon Wakefield,whose work 'A View of the Art of Colonization' was published in 1849.

Howard adopted the principle of the 'Garden City', a term first used in 1869 by A.T. Stewart, in connection with the development of an estate on Long Island, New York. In 1899, he founded the Garden City Association, with the intention of demonstrating his principles, as a private venture, in a model experiment at Letchworth.

The main features of Howard's scheme were

1. the purchase of a large area of agricultural land within a ring fence,
2. the planning of a compact town surrounded by a wide rural belt,
3. the accommodation of residents, industry and agriculture,
4. the limitation of the extent of the town, and prevention of encroachment upon the rural belt,
5. the rise in land values to be secured for the town itself.

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(57) Sources of reference for this section were Ebenezer Howard's 'Garden Cities of Tomorrow', Ed.F.J.Osborn (Faber) 1946, Town and Country Planning Textbook A.P.R.R., 1950, pp.136-140, and Frank Schaffer, The New Town Story, Gibbon 1970.

Purdom, C.B., The Building of Satellite Towns (Revised), Dent, 1949.

Howard based his scheme upon the urgent need for remedying the congestion of the towns, and the de-population of the countryside. He suggested that, since towns grew because people were attracted to them from country or rural districts, which did not satisfy their needs, the country or rural areas must be made attractive to them by establishing centres where the living conditions have the quality of town life, as diagrammatically portrayed by his Three Magnets, Diagram 78, p. 227; this is often described today as urbanizing the rural areas, although many an economist finds this a contradiction in terms.

He had calculated that a town with a population of 30,000 would be able to support all the commercial, cultural and social needs of a normal community of people, whilst a group of such towns, with easy access to each other, could be planned in such a way as to provide all the advantages of a big city. Because the inhabitants of these towns in the rural belt would be kept in close touch with rural life, rural interests would form part of the town's economy, as he illustrated in his book, see Diagram 79, p. 228. Such towns, located strategically throughout the country, would, he believed, check rural de-population, which was (and had been), the cause of the overgrowth of the great industrial towns, and the loss in self-sufficiency of food for the country.

He proposed that the Garden City be created as a private corporation; its charter of incorporation was to have the authority to raise money on loan, lay out the town, construct the roads, drainage, public services, etc., and rent out the land on a system of leases, which would be revised, and the rents increased, as the population and cash flow throughout the town increased. Howard showed by his calculations that it was possible to amortize the loans, charge reasonable rents, and still be able to pay both interest and dividend. The rents were to be 'rate rents', i.e. they were to include such charges on property as were normally required to meet the expenditure of the local authority, although at the time, he did not foresee the effect the rate of inflation would have on his proposals and estimates, and no provision was made for monetary correction to real value to cover this problem.

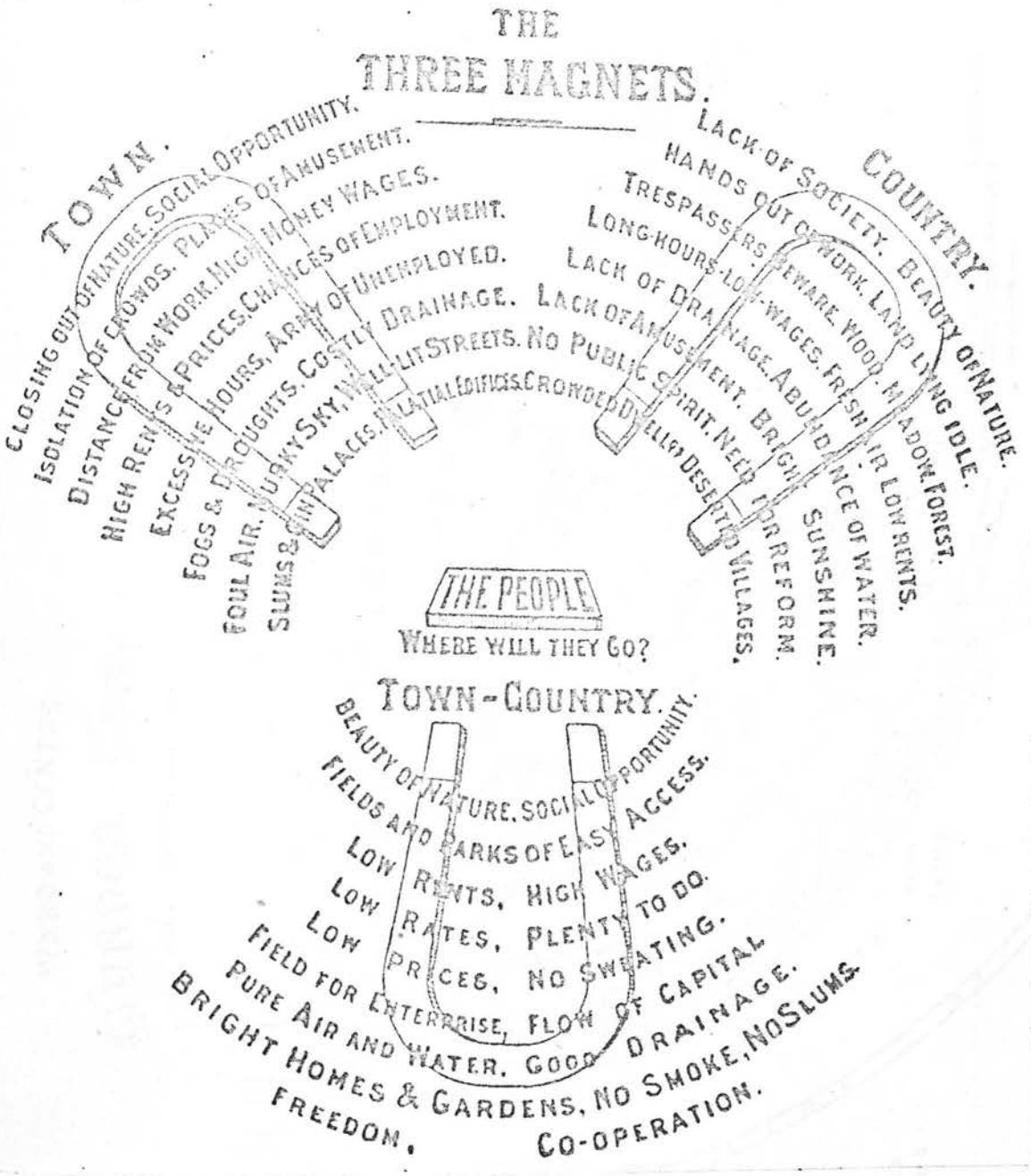
Architects Raymond Unwin and Barry Parker, both of whom understood Howard's principles as well as he did himself, prepared the plans for the Letchworth Garden City, as shown in Diagram 80, p. 229, and in 1903, the project was commenced; 3,822 acres, later increased to 4,552 acres were purchased, 35 miles from London, and 2½ miles from Hitchin. A Joint-Stock

Company, First Garden City Ltd., was formed to carry out the enterprise, with an authorised capital of £300,000; the dividend was limited to 5% per annum. The original plan made provision for a population of 32,000, but this was later increased to 35,000. The Company constructed the roads, drainage system, water, gas and electricity supplies.

By 1951, the population was 20,332, and several industrial undertakings, all of a light and clean category, were successfully operating.

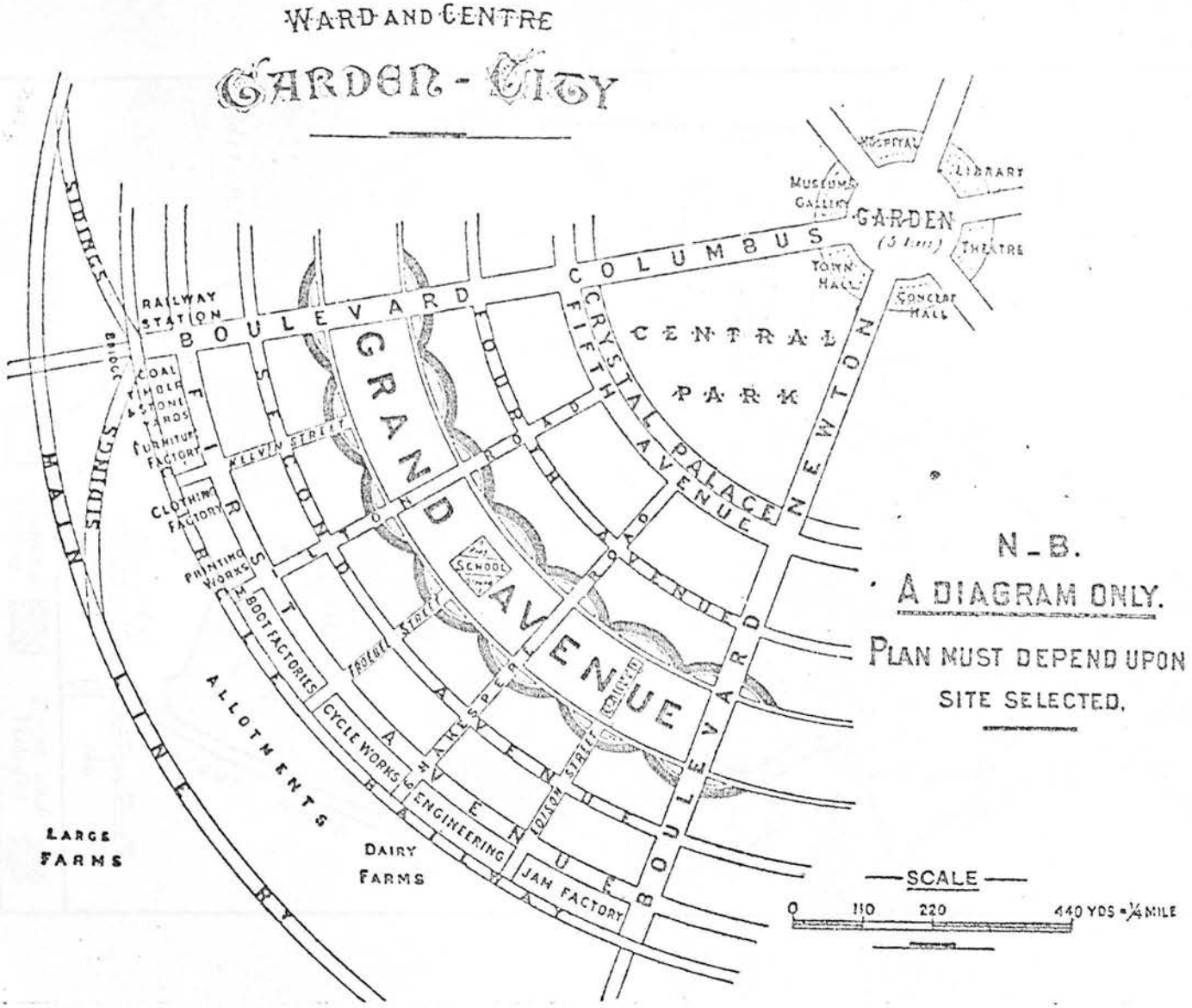
Welwyn Garden City was the second venture by Howard; it was begun in 1920. It followed the same pattern as that of Letchworth in every respect except that its establishment was slower and the dividend rate was set at 7% per annum; this rate had to be abandoned later as it was not possible to maintain it.

Under the New Towns Act of 1946, the Garden City Company went into liquidation. Welwyn was expropriated, and its former building and development organisation was abandoned; the completion of the town was entrusted to a new development corporation, financed by loans from the Treasury through the New Towns Commission. Compensation to the value of £3,550,000 was paid for the land and buildings expropriated, which, although this appears to be in excess of the outlay of the Company, presumably reflected the current market price.



EBENEZER HOWARD'S TOWN - COUNTRY CONCEPT OF URBAN PURPOSE

(Stewart C.,p. 175)

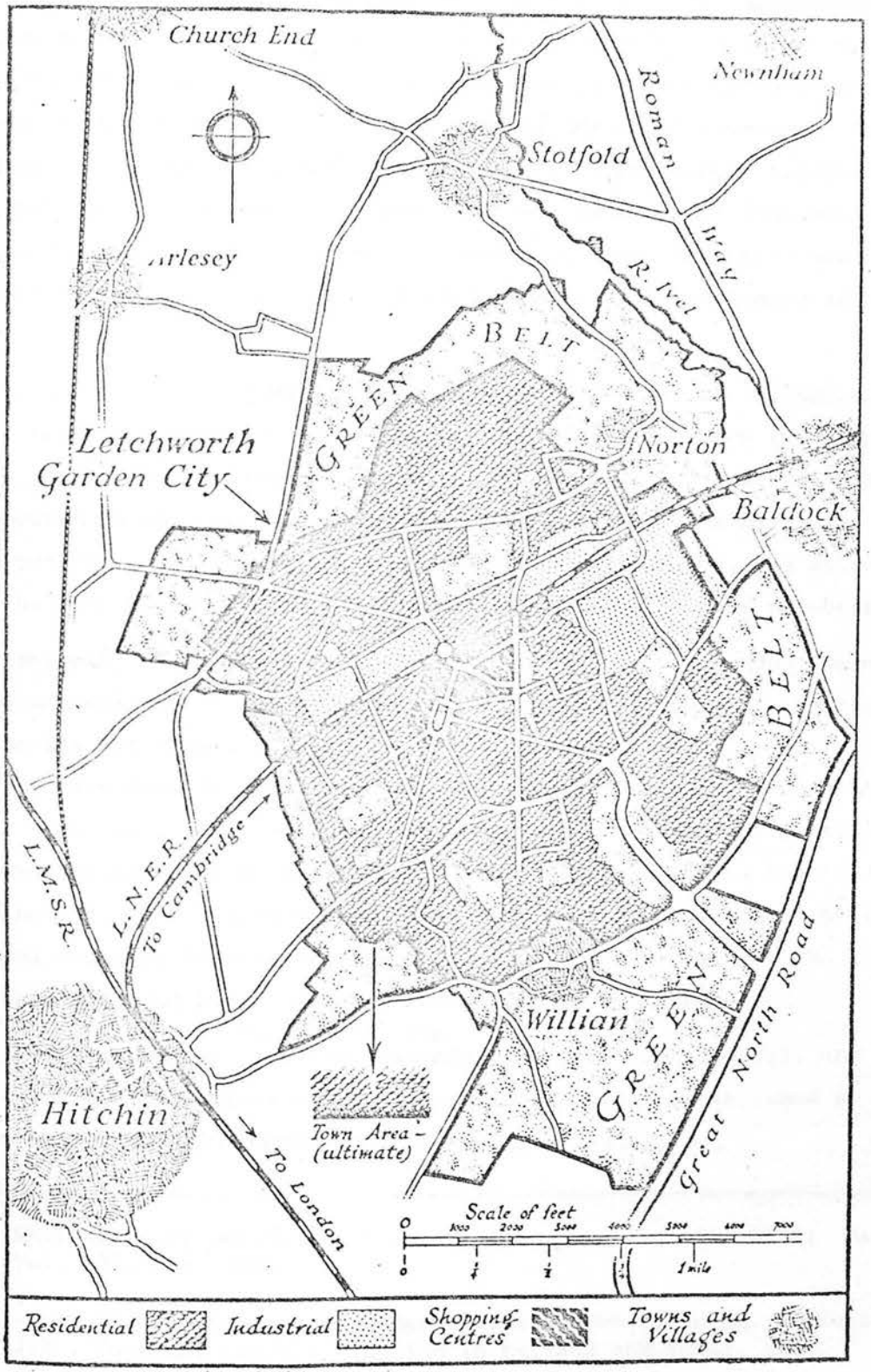


A SEGMENT OF THE GARDEN CITY CONCEPT OF HOWARD

DIAGRAM No. 79

(Howard E., GARDEN CITIES OF TOMORROW, p. 53)

DIAGRAM No. 80



THE PLAN OF LETCHWORTH

(HOWARD E.; Garden Cities of Tomorrow,

5. Town Planning - a recognised profession with an education policy

Ebenezer Howard was only one of many who saw the need for reform at the end of the nineteenth century, especially as it related to the urban living environment. Members of the council of the Royal Institute of British Architects began to examine the examples of city improvement schemes of other countries, notably America, Sweden, France and Germany, as a basis for initiating a nation-wide interest in town planning and re-development. This interest was shared by the President of the Local Government Board, the Rt. Hon. John Burns M.P., and by 1907, a Town Planning Bill had been prepared and submitted to Parliament. Under the able guidance of John Burns, and through the debates in the House of Commons in 1908, this Bill was finally incorporated in a Housing and Town Planning Act, and was passed into law in 1909.

'The object of the Bill', declared John Burns, as he introduced the Bill, 'is to provide a domestic condition for the people in which their physical health, their morals, their character and their whole social condition can be improved by what we hope to secure in this Bill. The Bill aims, in broad outline, "at, and hopes to secure, the home healthy, the house beautiful, the town pleasant, the city dignified, and the suburbs salubrious".(58)

Ashworth(59) sees this Bill as the culmination of a gradual development of the accumulated experiences in public health and housing measures dating back to the Artisans and Labourers Dwelling Act of 1868 (Torrens), Artizans and Labourers Dwellings Improvement Act, 1875 (Cross), the Public Health Act of the same year, which provided the framework for local authorities to control new buildings by means of regulations and by-laws, and the London Building Act, 1894, which brought into the scope of public control the formation and widening of streets, the lines of building frontage, the extent of open spaces around buildings, and the height of buildings.

Five years after the Burn's Act, the Town Planning Institute was founded, and has carried on the objectives and the educational policy established at the 1910 conference on Town Planning organized by the R. I. B. A..

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(58) Parliamentary Debates on Housing, Town Planning etc. Bill; H.C.Debates Vol. 188, May 1908.

(59) Ashworth, W. Genesis of Modern British Town Planning, cf.Cullingworth, J.B., Town and Country Planning in England and Wales, p.21.

The paper delivered by Arthur Crow, F.R.I.B.A., District Survey for Whitechapel, at that Conference, "Town Planning in relation to old and congested areas, with special reference to London",(60) is of particular interest to the concept of new towns and garden cities.

He foresaw the benefit of electricity, the electric train, and the motor car, in that many of the outlying rural districts around London were now made easily accessible by this new and rapid means of conveyance, both for workers to travel daily into the city, and for manufacturers, industries and businesses to relocate themselves on the outskirts, yet retain convenient communication with all allied activities.

The population of London over the past century had increased according to the following table:-(61)

1801	1,114,644	1861	3,222 720
1811	1,323 899	1871	3,885,641
1821	1,596,351	1881	4,766,661
1831	1,903,572	1891	5,633,806
1841	2,235,344	1901	6,581,402
1851	2,680,735		

The Royal Commission on London Traffic, appointed in 1903, dealt with the Metropolitan area of London, covering some 700 square miles, not just the central districts. The Report pointed out the importance of viewing London as part of a region, in which transport could provide the means of relieving the heavy population congestion in the central areas, which was measured by the L.C.C. at the time, as 148 persons per acre, gross density.

Arthur Crow proposed a concept of a planned London, by which ten 'cities of health' could be planned on a major ring road, 500 feet wide and 14 miles radius from the heart of the city, all planned and built within the open rural environment, and each connected directly to the city centre by fast electric trains, as illustrated on the Diagram 81, p. 232. The notion of dealing with the social problem of metropolitan overcrowded central areas by means of new towns, which would accommodate the overspill population, and be linked to the centre of the city by fast transport connections, did not receive government endorsement at the time.

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(60) R.I.B.A. Town Planning Conference, London, October 10-15, 1910 - Transactions.

(61) Compiled from the Annual Abstract of Statistics (C.S.O.) from the several years covering this period.

DIAGRAM No. 81

THE TEN CITIES OF HEALTH FOR LONDON - 1910

6. Housing, Planning and New Towns - responsibility accepted by Government

The Housing, Town Planning etc. Act of 1909, was designed chiefly to control new or future suburban development; it did not give the local authority any control over any land already built on. During the War years, the Ministry of Reconstruction was formed. By 1918, Tudor Walters, Chairman of one of the working committees, presented a report on recommended 'housing standards'.(62)

The Parliament of 1919 recognised the need for taking some action to provide a better living environment, and included in Section 10 of the Housing (Additional Powers) Act of that year, powers to local authorities, (or a combination of them, i.e. Councils of County Boroughs, Boroughs, Urban and Rural Districts), to purchase land and develop it as garden cities or for town planning schemes. These powere were not clearly defined, nor were they obligatory; they did not provide adequate powers for a local authority to build a self-contained and balanced town, nor did the Bill provide any proper means of financing the management of the schemes. It is not surprising that no projects for new towns were initiated under that Act.

In the same year, 1919, the Housing, Town Planning, etc. Act was passed which authorised groups of local authorities to form Joint Town Planning Committees. By the same Act, the Local Government Board was superseded by the Ministry of Health, and all its previous powers, with regard to town planning, were absorbed by the new Ministry.

Sir Alfred Mond was appointed to advise the Minister at the time on the best method of dealing with slum areas. His Committee recommended in June 1921, the development of self-contained garden cities, and that this should be hastened by State assistance.

A Housing Act which followed in 1923 appears to have been motivated by an entirely different set of values; it enabled the responsible Minister (i.e. the Minister of Health) to authorise the preparation of Town Planning schemes for land, whether developed or not, with the object of preserving in a locality the existing character and features which were of especial architectural, historic or artistic interest.

The Town Planning Act which was introduced and passed in 1925 was the first Town Planning Act which was not an addendum to housing or some other subject. It consolidated all the previous acts relating to town planning.

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(62) Report of the Committee on Questions of Building Construction in connection with the provision of dwellings for the working classes; Cmd. 9191, HMSO, 1918 (Tudor Walters Report).

Under this enabling Act, some city corporations had special bills passed authorizing them to act in town planning control, such as the Bath Corporation Act, 1925, which gave the local corporation power to control heights and external appearances of buildings; the Newcastle-on-Tyne Corporation Act, 1926, gave the Corporation power to control the development of the entire city, including all those parts which had been developed and built on.

The Local Government Acts of 1929 enabled County Councils, for the first time, to participate in the Joint Town Planning Committees with the local authorities; by this provision in the Act, the County Councils could identify themselves with town planning functions, and accept responsibility for provision in town planning schemes.

In 1931, the Lord Privy Seal (and the then Secretary of State for Scotland) set up a Departmental Committee under the Chairmanship of Lord Marley, to examine the merits and feasibility of garden cities and satellite towns. His Committee reported in 1934,[63] and drew attention to the dangers and evils, economic and social, of haphazard, scattered building and the problems of ribbon development. They also deplored the tendency towards higher buildings and greater density of population in central areas, which they said, was based upon existing concentration and lack of planning in the past, accentuated by badly planned suburban development of recent years. They recommended that the time was ripe for the development of garden cities and that this development should be regarded as a national, and not a local problem.

In the same year as Lord Marley was asked to examine the feasibility of Garden Cities, the report of the National Parks Committee was published. The Prime Minister had asked the Committee 'to consider and report if it is desirable and feasible to establish one or more National Parks in Great Britain with a view to the preservation of natural characteristics, including flora and fauna, and to the improvement of recreational facilities for the people; and to advise generally, and in particular as to the areas, if any, that are most suitable for the purpose.

The following year, i.e. in 1932, the Town and Country Planning Act was passed which again consolidated all previous legislation, including the powers contained in the pioneering Corporation Acts, and made provision for planning schemes which covered both the core of towns and the countryside surrounding the towns. It also provided the powers to local authorities to prohibit

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(63) Parliamentary Papers 1934.

building operations in declared zones if adequate public services were not already in existence. The Bill was again permissive, in that those local authorities which wanted to use the whole or any part of the powers declared in the Bill, could do so, but there was no compulsion.

The Town Planning Institute took the initiative in 1936, and appointed a Committee under the Chairmanship of the Rt. Hon. Sir Leslie Scott, to prepare a report on 'National Survey and National Planning'. Their report, recommending the setting up of a Commission to carry out this objective, was published in 1938.

The Government had, however, taken action in the industrial aspects of planning in 1937, and appointed a Royal Commission under the chairmanship of Sir Montague Barlow, to look into "the causes which have influenced the present geographical distribution of the industrial population of Great Britain, and the probable direction of any change in that distribution in the future; to consider what social, economic or strategical disadvantages arise from the concentration of industries or of the industrial population in large towns or in particular areas of the country; and to report what remedial measures, if any, should be taken in the national interest".

The Barlow Report, which was published in 1940,[64] had recognized (paragraph 103) that "the movement of industrial population towards London and the Home Counties within recent years has been associated with an outward movement of industry and population from the congested parts of London to the suburbs and the surrounding country". It was established, that in general, certain advantages resulted from the establishment of industrial plants in large towns or urban areas, but beyond a certain point of concentration, difficulties arose in the form of rapidly rising land values, difficulties with free flow of local transport, (due usually to the 'threshold' of use of the original road system having been passed, and requiring enormous capital investment to reconstruct road systems which would permit the free flow of traffic). These disadvantages, in many cases, were constraints on the normal economic functioning of the industries, and this was forcing many industrial establishments to seek new sites where they could operate on a competitive basis.

The country had come to rely on industrial enterprizes as the core of the strength of the national economy, and the local authorities were

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(64) Cmd. 6153, HMSO 1940.

obliged to provide the means (and possibly the pre-investment), to encourage the industrial sector to increase (or substantially contribute to), the growth rate of the economy. The problem of the wasting assets of the inadequately used original urban (or central area) infra-structure, coupled with the need to raise loans with heavy amortization commitment to support these industries (which were dispersing to the outskirts), and the need to encourage industrial enterprizes to remain within the jurisdictional boundaries of the respective towns and cities as a means of maintaining the local economic growth rate, and benefit from local rate charges with which to meet the heavy amortization commitments, posed a sizeable dilemma for the local authorities.

This dilemma was recognized by the Commission, in the same context as the problem arising from the distribution of industry at the time, the distribution of the industrial population, and the ever-changing population structure. Estimates of future population which were made for the Commission, indicated a marked movement of the age balance of the population from the younger to the older ages; they expected that the population in 1971 would be about equal to that of 1937 (44,795,000, Census of Population, although the Registrar-General of the time estimated 41,215,000), except that there would be 4 million less people between the ages of 15 and 65. In fact, their estimates were in error, and the population of 1971 had increased by almost 10 million, i.e. to 54,563,000.(65)

In October 1941, a Committee of Inquiry into Land Utilization in Rural Areas, under Lord Justice Scott, was appointed "to consider the conditions which should govern building and other constructional development in country areas consistently with the maintenance of agriculture, and in particular the factors affecting the location of industry, having regard to economic operation, part-time seasonal employment, the well-being of rural communities and the preservation of rural amenities".

Following the Scott report, the Forestry Commission recommended that the area under afforestation (considering that the British Isles, less than 1000 years ago, was almost completely under natural forest), should be increased to up to five million acres.

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(65) Report by an Interdepartmental Study Group - Long Term Population Distribution in Great Britain - HMSO 1971.

Since 1937, another Committee, under the Chairmanship of Mr Justice Uthwatt, had been hearing evidence and finally reported on the problem of compensation and betterment.

The problem of dealing with compensation was the chief obstacle in the way of effective planning. The Committee came out in favour of national planning, recommending that all land values should be pegged at the 1939 level, as a deterrent to speculation. They also recommended public purchase of areas requiring reconstruction, public acquisition of the development rights of all rural land on a global basis of compensation, and the collection of a betterment tax on urban land by means of a quinquennial levy.(66)

Lord Reith, when Minister of Works and Building during the war (February 1941), gave an indication of the Government's policy towards 'planning' by the Central Government.(67)

"There are other decisions which Government and Parliament may ultimately take, but in the meantime, and now, I am authorized in the preparatory work to proceed on certain assumptions:

(1) that the principle of planning will be accepted as national policy, and that some central planning authority will be required;

(2) that this authority will proceed on a positive policy for such matters as agriculture, industrial development and transport;

(3) that some services will require treatment on a national basis, some regionally, and some locally."

Urban settlement, housing, local government was not mentioned, and one is left to ponder whether it was intended to be implied.

Between the wars 5 million houses were built, and the effect on the countryside and on the urban structure of the nation was regarded politically as having been almost calamitous. Enormous areas of agricultural and market gardening land had been lost to the country for ever.(68)

The stage was set for Government to create a national planning authority, the role of which could have been the collating, analysing and producing of strategy plans at national level, technical evaluation, and

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(66) Cmd. 6537, HMSO.

(67) Pepler, Sir George; Forty Years of Planning, APRR, 1950.

(68) Parliamentary Papers, 8th May 1946, pp.1072-1153, The Minister of Town and Country Planning, the Rt. Hon. Lewis Silkin.

perpetual monitoring through its own offices and the local authorities, measuring land utilization for agrarian, urban and recreational uses, nature conservancy, industrial uses linked directly to location of employment and production, the adequacy of transport and infra-structure services. Within such a monitoring system, estimates of changes in values of properties, phasing of planned use of land on a local (and in summation, a national basis), forward estimating for compensation which would have to be paid, and a means for optimizing the use of the available resources (with limits of tolerance) could have been available to the Government at national and local level; this could have been yet another step towards establishing an administrative device for attaining Jeremy Bentham's plea for a Government's action to "produce the greatest happiness for the greatest number".

The Government created the Ministry of Town and Country Planning by Act of Parliament in 1943. This was followed in the same year with the Town and Country Planning (Interim Development) Act, which amended (and superseded) the Planning Act of 1932, and brought all land in the country under the planning control of the Government.

The next year, a major step in introducing effective legislation for planning was taken, in the enactment of the Town and Country Planning Act of 1944. This Act was in two main sections:-

The first dealt with areas of extensive war damage, and provided for a more speedy form of procedure by which the planning authority for the area might plan its reconstruction and acquire compulsorily the land it needed for that purpose. Included in the land which a local authority could purchase compulsorily, or acquire by the use of public funds, was land necessary for the rehousing of people and industries displaced by the reconstruction of the war-damaged areas. In addition there was, for the first time, a provision of public money from the national exchequer for redevelopment of these areas, along with grants which were intended to cover the annual outlay of the planning authority during the initial years when the area was not income-producing;

the second section of the Act extended the powers of planning authorities generally. One of the most significant changes in the power of the local authority was to be found in the power to acquire land compulsorily for the purpose of redeveloping an area which is of "bad layout and obsolete development".

This Act was later amended and another Town and Country Planning Act was passed in 1947, which included provision for establishing a Central Land Board, which would regulate all development charges; provision was made requiring all local authorities to prepare a development plan for their counties, boroughs and cities within five years; failure to comply would mean that the national government would prepare the plan and levy the costs incurred against the annual allocation which the local authority normally received from central government.

The main objectives of the Act were basically,

1. to set up a new planning system to meet the then present-day requirements;
2. to produce a comprehensive solution to the problems of compensation and betterment, and thereby overcome one of the main obstacles to good planning;
3. to provide exchequer grants to assist local authorities in the purchase and clearing of land for the execution of plans and to meet the payments for compensation.

Previously, in 1944, Sir Patrick Abercrombie had presented a plan for Greater London which illustrated the interdependence of London with the surrounding counties, and the need for town planning within a regional context. His plan made provision for the London Green Belt, which was intended to constrain the growth of the inner area; he proposed that further growth (or relocation from) the inner area was to be contained in a series of new towns outside the green belt surrounding London.(69)

In this plan, recommendations were made as to the creation of some ten new towns within about 30 miles of London, and the enlargement of a number of existing towns so as to redistribute a population of some 1,250,000, mainly from the County of London, and the immediately surrounding congested areas, like East Ham, West Ham, Walthamstow, Tottenham, and a number of others. These new towns were each to have a population ranging from 30,000 to 60,000. They were to be self-contained so that their inhabitants would not have to leave the town for their work, and each town would be provided with all the necessary amenities of life. Also in 1944, the advisory report for the Government on "The Design of Dwellings", the Dudley Report for official post-war reconstruction,was published.

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(69) Abercrombie, Sir Patrick; The Greater London Plan, HMSO, 1945.

This meant that by 1945, the main elements of a population distribution policy and the justification for a national planning strategy and system, had emerged. The Barlow Report stressed the need for a better balance of industrial development between regions and in relation to the towns which, through the supply of job opportunities, directly influence migration, and hence, population distribution. The Scott report emphasized the importance of land use and settlement planning (both urban and rural), at national level. The Uthwatt report gave a way of proceeding towards the problems of compensation. The Ministry of Town and Country Planning had been created in 1943 and the first Town and Country Planning (Interim Development) Act had been passed by a war-time Coalition Government in 1944. The Abercrombie regional plan which had been adopted for London provided for a 'green belt' and 10 new towns for 'urban overspill' from the congested central area.

The Distribution of Industry Act (which superseded the Special Areas Act, i.e., depressed areas legislation of the 1930's), was also passed in 1945. This Act gave the Board of Trade (now the Department of Trade and Industry), considerable powers to initiate and encourage the growth of local services designed to attract industry to such areas, and to build factories 'to let' within them. In addition, there were some tentative powers which gave the Board of Trade some additional means for influencing particular industries to establish themselves in those areas where there was an existing labour force seeking work, in preference to allowing them freedom to set themselves up in areas which were already overcrowded with suitable industry.

The Minister of Town and Country Planning, the Right Honourable Lewis Silkin, and the Secretary of State for Scotland, the Right Honourable Joseph Westwood, appointed a New Towns Committee, under the chairmanship of Lord Reith, in 1945, "to consider the general question of the establishment, development, organization and administration that will arise in the promotion of New Towns, in furtherance of a policy of planned decentralization from congested urban areas; and in accordance therewith to suggest guiding principles on which such towns should be established and developed as self-contained and balanced communities for work and living".

The Committee submitted its report to the Minister on July 25th 1946.(70)

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(70) Final Report of the New Towns Committee. Cmd.6876, HMSO, July 1946. This report recommended the Principles in Planning, the factors affecting the preparation of the of the plan, the organization, administration, and method which the Government could follow to implement a 'new towns' programme.

7. The British New Towns by the 1946 Act

The Rt. Hon. Lewis Silkin, when opening the debate for the second reading of the New Towns Bill, stressed the fact that the Government was not referring to a 'Satellite Towns' Bill, or a 'Garden City' Bill, but a 'New Towns' Bill; he hoped that the two former terms, as they applied to towns, would be 'decently interred'. In retrospect, twenty-five years later, it would appear that the concept of 'Garden Cities' is still very much alive, and constitutes the basis of the new towns policy, as it has been applied to accommodate the overspill population of the larger cities.(71)

For meeting the needs of the immediate post-war reconstruction problem, the Government had to encourage the building industry, private investment groups, real estate interests, municipal councils and local authorities to plan and construct houses, (concomitant with a proper urban environment), at the rate of 400,000 per year, i.e., using about 35% of the capacity of the construction industry, as it was estimated in 1945. It was estimated by the Ministry of Housing at the time that housing investment accounted for about 7% of the expenditure of the public sector, and the value of output represented about 3% of gross national product.

On March 5th, 1946, with the New Towns Act, the Government decided upon a programme for the planned dispersal of a substantial proportion of the population of London. However, the members of the Government acknowledged that the problem of rehousing the population was not confined to London, but applied almost equally to such places as Liverpool, Manchester, Glasgow, Leeds, Portsmouth and Plymouth, towns with populations ranging from 40,000 to 250,000; it was equally apparent that it was not possible for these local authorities to provide adequate housing for their respective citizens within their own boundaries; as the Minister pointed out, "in many of these cases, the building of new towns is the only satisfactory method of providing accommodation for the overspill population".(72)

The Minister also dwelt on the problem of congestion, and the problem of the scattered villages throughout the country, whose inhabitants depend on natural local resources for their living, and where the resources have

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(71) Parliamentary Papers, 8th May 1946, pp.1072-1153, The Minister of Town and Country Planning, The Rt. Hon. Lewis Silkin.

(72) op. cit.

declined, e.g., where local mines have been worked out. The Government did not envisage any incentives for the families to migrate, but "saw the creation of new self-contained towns with industries establishing themselves therein, as the only solution which would permit these families to remain in their locality and continue in employment".

The way in which the New Towns Act is administered was outlined by Mr John Barker, Under-Secretary of the New Towns Directorate, Ministry of the Environment, in the paper he delivered to the U.N. Seminar on British New Towns, June 1973[73] and is quoted as follows:-

"The New Towns Act allows the appropriate Secretary of State

a. to designate (after first consulting the local authorities concerned) any area of land which he thinks it in the national interest to develop as a new town; and

b. to appoint a development corporation of up to 9 members to plan and construct the town.

"Each new town development corporation

i. prepares a master plan for the development of the town;

ii. assembles land (using special compulsory purchase powers as necessary) at a price excluding development value created by the designation of the new towns;

iii. draws up detailed development plans and secures planning permission direct from the Secretary of State;

iv. provides local roads, sewers and other infrastructure; and

v. either itself provides a range of housing, shops, factories, and offices for sale or rent; or disposes of land (or interests in land), both to local authorities, statutory undertakers and the like (who have a duty to provide schools, hospitals, energy, etc., in new towns just as elsewhere) and to private enterprise for house, shop, factory and office building.

"When a new town area has been designated and a development corporation set up, the main concern of the Secretary of State is to endorse the master plan; to give planning permissions for specific projects; to approve the corporation's expenditure proposals (which entail a commitment to borrowing on 60 year annuity terms from the Exchequer); and

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(73.) U.N. Document ESA/HBP/A.C.9/48, pp.52-53.

generally to help the corporation to get the town built with due regard both for the well-being of its inhabitants and for the proper use of public funds. Development corporations made a special point of ensuring that a wide range of amenities is provided and of helping newcomers to settle in.

"It is essential for development corporations to establish good working relationships with their local authorities. Corporations may contribute to local authority expenditure for new town purposes in order to prevent local rates from rising unacceptably.

"Once a new town is substantially complete, there is provision for the New Towns Commission to take over and manage the development corporation's assets. The Secretary of State may recover for the Exchequer capital or revenue surpluses from the Commission and development corporations."

The Secretary of the Commission for the New Towns, Mr F. Schaffer, has provided a most comprehensive document(74) on the realities of the problems which each of the new town corporations have met in commencing and undertaking the construction and promotion of the new towns, and this semi-official document is accepted, for the purpose of this thesis, as the most up-to-date assessment of their progress.

The list of the new towns, the population proposed initially at designation, and subsequently revised population targets, and the year of the designation of the new towns are shown in Table 24, p.244; their location in Britain only is shown on Diagram 82, p.245.

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(74) Schaffer, F., The New Towns Story, Paladin, 1972.
See pp.330-331 for the table of progress as at April 1972.

TABLE 24
NEW TOWNS DESIGNATED IN THE U.K.
AND NORTHERN IRELAND

	Name of New Town	Year of Designation	Population Proposed Initially	Revised Population Target
1	Stevenage	1946	60,000	165,000 +
2	East Kilbride	1947	100,000	
3	Crawley	1947	50,000	80,000
4	Hemel Hempstead	1947	80,000	
5	Harlow	1947	90,000	
6	Newton Aycliffe	1947	45,000	
7	Peterlee	1948	30,000	
8	Hatfield	1948	29,000	
9	Welwyn Garden City	1948	50,000	
10	Glenrothes	1948	95,000	
11	Basildon	1949	50,000	106,000/134,000
12	Cwmbran	1949	55,000	
13	Bracknell	1949	25,000	60,000
14	Corby	1950	80,000	
15	Cumbernauld	1955	50,000	70,000/100,000
16	Skelmersdale	1961	80,000	
17	Livingston	1962	100,000	
18	Telford	1963	220,000	
19	Redditch	1964	90,000	
20	Runcorn	1964	100,000	
21	Washington	1964	80,000	
22	Irvine	1966	116,000	
23	Milton Keynes	1967	250,000	
24	Newtown	1967	11,000	
25	Peterborough	1967	190,000	
26	Northampton	1968	300,000	
27	Warrington	1968	200,000	
28	Craigavon	1965	60,000	
29	Antrim	1966	30,000	
30	Ballymena	1967	70,000	
31	Londonderry	1969	100,000	
32	Central Lancashire	1970	430,000 (Existing - 234,500)	
33	Stonehouse	1971	100,000	
34	Llantrisant	1972	90,000	

A total of 3,537,000 persons to be accommodated in the new towns by the original designation orders, though this has since been increased to 3,783,000.

NEW AND EXPANDING TOWNS

DIAGRAM No. 82

PART III

CHARACTERISTICS OF BRITISH NEW TOWN PERFORMANCE OVER THE PAST TWENTY-FIVE YEARS.

Chapter 8 establishes a statistical sampling method for analysing the average performance characteristics from a near 50% sample survey of the British new towns, with information from the annual reports of the corporations for the period 1963-71. This information is finally analysed in terms of investment per person into various sectors of the new town development for each year from the year of designation for the 25 year period, 1946-1971. Other characteristics analysed include the rate of increase of population, capital advances and repayments, investment into industry, and the number of industrial jobs created.

Chapter 9 comments on the inadequacy of the information presently made available for measuring the performance of new towns in the context of the national economy, and examines a method for extending the present information system for new towns, using a 'systems engineering' approach, by which a model which could simulate parts of the financial performance of a new town could be constructed.

The feasibility of such a model is demonstrated, and contained, in Annex 1.

PART III

CHAPTER 8 - THE AVERAGE MODEL OF BRITISH NEW TOWN PERFORMANCE

1. British New Towns - contributors to national income?

The model of the urbanization process of Britain, particularly the rates of change of national income, government income, and urban population, as portrayed on Diagram 60, p. 197, could indicate, (though there are obviously many other decisions and influences affecting the resulting figures), that there is a direct correlation between growth of national income, (consequent upon which, government income can increase), and the increase of urban population.

Whether the accelerated rate of increase in national income over the past 15 years, (as shown on the graph), is a direct result of the greatly increased investment by Government into the social fixed assets of the urban areas, and the conscious intervention by Government in the land use planning process, and the urbanization process of the country, or is only coincidental, is still open to interpretation and conjecture. The facts, as they are portrayed, are open to different interpretations; this thesis is examining the fact that there has been a noticeable increase in national income, and a corresponding increase in government income, without a corresponding increase in urban population, since the War period 1939-45, but, within the context of the national government's intervention in the planned urbanization of the country, and in the financing and building of new towns.

A question which needs to be answered, especially if one is advocating the use of British type new towns by governments of developing countries for accelerating their national development, is the measure of the contributions which the British new towns make to the national income, each year, in relation to the public funds which have been loaned for that purpose. The actual investment made by the new town corporations is derived from loans from Treasury which are repaid at prevailing Bank rates of interest, over a repayment period of 60 years. This, in itself, is a good investment for government funds, as it can become a revolving fund which will increase the investable capacity of the fund according to the interest rate. But a new town adds a good deal more to national income than the interest on a government loan; the value of output and production of the industrial and manufacturing sector is a measurable input, and so is the value of product of all those employed in each of the other occupational sectors of the town.

This output sets in motion many multiplier benefits. In many cases, the investment into the infra-structure, and social fixed assets, by the Corporation has been the incentive for large sums of private capital to be invested into the new towns, both from the domestic market, and from abroad, all of which adds to both national income and national wealth. It avoids a lot of the diseconomies created by the unplanned development of the industrial cities of the 19th century, which omitted the social and welfare requirements of the workers, and the "unscrambling" of which in modern time is very costly, and not necessarily the best economic development and investment for the country as a whole.

What is not available to those responsible for planning in developing countries is a model of the performance of British new towns over the past 25 years, a model which can be related back to the design specifications which were used in Britain, (and which can be adjusted for desired design specifications in the separate developing countries), and the investment per capita per annum in the growth and development phases of a new town.

Quite obviously there is some essential pre-investment for which the Corporation must be responsible, and a time lag before the Corporation (or Government) can expect the beginning of the consolidated growth process, i.e. taking the new town to the stage of development when it has reached its own "take-off" point, from when its own future as a 'town' is assured. This type of analytical information on the progress of the new towns is not available, and this part of the thesis will endeavour to identify the characteristics of the average performance of the British new towns programme, from the information which is available.

The British New Towns policy emanated from recommendations made by several pre-war and wartime Royal Commissions and Committees; it stemmed from both the economic advisability of dispersing industries away from congested central areas of the existing large industrial cities, and from the political objective of rehousing many thousands of families who were living in depressed urban circumstances. There were a few exceptions in the purpose and functions of the new towns, such as Basildon, which was created with the objective of clearing a rural slum,[75] and Peterlee, which was built to re-house the miners in a new community, rather than let them drift off to diversified and scattered housing, thereby breaking up an existing group with strong social ties.

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(75) The area had become one of uncontrolled, unplanned and unserviced shack settlement.

Cwmbran, Corby, and Newton Aycliffe were intended to be towns for industrial development, Newton Aycliffe serving the large munitions factory which had been built during the war, and which had been retained for industrial output. Glenrothes was intended to provide on a new site, a new centralized community for the coal-miners, whose former workings were diminishing, and where there were high hopes for working a new seam.

Almost all the other new towns from the list of thirty-four were intended to take overspill from the existing large connurbations, although, if we can concede that a new concept for new town design is evolved every decade, the new towns which were designated between 1961-66 (Skelmersdale, Runcorn, Telford, Redditch, Washington and Livingston), were largely conceived as part of a policy of regional development or regional re-structuring. In this section, each of the new towns will be referred to as belonging to the particular decade in which they were designated.

For the purposes of this analysis, the more recent new towns, such as Newtown (in Wales) and Milton Keynes, are regarded as being too recent to provide any valid findings on a comparative basis. Northampton, Peterborough and Warrington are being built jointly by the local authority and the New Town Development Corporation, and although they will provide valuable experience in the methods for resolving an adequate working relationship between the New Town Development Corporations and Local Authorities (and this method has yet to be properly established), this aspect does not form part of this particular study.

The locational criteria for the selection of the sites for the new towns, as initially outlined by the Reith Report,[76] varies for each town, at the discretion of the Minister. Of "the 10 cities of health" for London proposed by Mr. H. Crow at the R.I.B.A. Town Planning Conference in 1910,[77] (which formed the basis for the ten new towns for London in the 1944 Abercrombie Plan), Stevenage and Harlow were the only two locations which were finally designated.

The extent to which the corporation contributes to the costs of site preparation and development varies considerably, as does the extent to which there is an easy negotiation between the local government officials (and district councillors) and the corporation members. The difference in character between the two is best described by Mr A.C. Duff, a former Corporation Manager:-[78]

(76) Final Report of the New Towns Committee (paras.26-29), CMD.6876, H.M.S.O., 1946.
(77) op. cit., Chapter 7 Section 5, p.232.
(78) Duff, A.C., Britain's New Towns, Pall Mall Press 1961.

"Relations between the New Town Corporation and the Urban District (or Borough) Council are likely to require careful handling, even granted that there is goodwill on both sides, and unfortunately goodwill has been the exception rather than the rule. The Councillors are aware that the members of the Corporation devote less of their time to the business of the New Town than do the Councillors; that the members are paid, but the Councillors are not; that the members for the most part are 'Strangers from London' while the Councillors are all local residents; and that the members are nominated by a Minister while the Councillors are elected by the ratepayers. The Councillors would be more than human if they did not on occasion feel some measures of both envy and resentment."

All capital advances from Treasury are subject to public accountability, and it is the annual report of each New Town Corporation, as submitted to Parliament for scrutiny, which, for the purpose of this study, is taken as the reference material for examining the performance characteristics, and the indicators of/the average performance of the U.K. New Towns.

Though the first essential condition for the release of these loans and advances is the return of the capital, (with interest, to the Treasury), the public, the professional planners, the new town corporation managers and members of Government, are equally concerned about obtaining the best possible use of the investment to the benefit of the people and the nation, and to attain the best possible living environment. The capital invested needs to be balanced against the design and planning specifications in the "time value" of the money (i.e., the use and retention of the value of the money invested over a period of time). One of the objectives is to obtain 'optimum satisfaction' for the occupants of the new towns.

There are some 'sensitive' sectors which have to be handled with care, involving the 'settling-in' of the people in the transition period from their former abode and surroundings to the new town, in the supply of services, heating, water, drainage, etc., and there are the less sensitive areas, involving the actual structures, where subjective opinions on design may give much cause for comment, but rarely cause for universal agreement.

Many of the management decisions taken within the Government's policy over the past years have been intuitive commonsense decisions governed by the experience of the managers, the immediate circumstances prevailing at the time, and the goals and targets of achievement set by the planners.

After the experience of a quarter of a century, thirty-four new towns constitute a monument to a successful undertaking, and it is now possible to examine and evaluate the performance of the new towns, and determine their average characteristics. From this model of average performance, and their characteristics, it is possible to examine them from the point of view of the contribution the policy, method or system can make to alleviating some of the problems of urbanization, which are threatening to "put whole societies into a terminal crisis of economic and social disintegration".(79)

(79) Barbara Ward, op. cit.

2. The Criteria on which the performance of the New Towns is measured

What is of particular interest to the developing countries, (for any policy-makers or technicians), is the way the progress of the new towns is measured, and what the progress actually tells us in terms of the performance, the cost-benefit, and the value added, or contribution which the new towns make to total national development, as well as national wealth.

The summary of the way in which the Corporations report progress to Government annually is given by Mr. Schaffer, Secretary of the New Towns Commission,(80) under the headings of

Population
Dwellings - (i) by corporation or commission
(ii) by private enterprise
Factories and Service Industry (Sq. ft.)
Shops (Sq. ft.)
Offices (Sq. ft.)
Capital Advances
Revenue surplus or deficiency for that year.

Each Corporation, and the Commission, are statutorily required to submit to the Government each year, under the New Towns Act, (in Scotland under section 39(7) of the New Towns Act, Scotland), an annual report on progress.

The way in which the accounts have to be submitted to Government is uniform, but there is a wide variation in the way other information concerning progress is submitted. The latter is left to the discretion of the Chairman of each Corporation according to any additional role the annual report is expected to play, be it for promotional purposes, or simply as a statement of fact.

The Act specifically requires that before approval is given to any proposal the Minister must be satisfied that, having regard to all the circumstances, a reasonable financial return can be expected. How 'reasonable financial return' is interpreted is not spelled out in any public document, and therefore it can only be assumed that the reasonable financial return is, for the most part, the amortization of the loan under the conditions prescribed in the Act, or as it may be changed from time to time. There are obviously other essential criteria concerning the environmental quality of the built urban form within the intention of the Act, which must be attained, and for which, it is assumed, the progress of new towns is being monitored perpetually.

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(80) Schaffer, F., The New Towns Story, (pp.330-331), Paladin, 1972.

The annual report of a typical new town can be taken as an example of the way the information is submitted. An item of principal concern in the livelihood and performance of a new town is the number and size of industries which are established in the town; Appendix I of all reports usually provides the list of industries in operation as at the 31st March ending the year of the report.

Appendix II of the annual reports comprizes a statistical summary for the year under the following headings, along with the status at the end of the previous year:-

1. Population (estimated)
2. housing
   - corporation houses
   - corporation flats
   - privately built
3. new industry since designation
   - floor space - manufacturing, service
   - number of firms
   - employees - male
     - female
4. shopping floor space
   - town centre
   - neighbourhood
   - corner shops
5. office floor space completed
6. school population
   - primary
   - secondary
   - technical college
7. services
   - roads - non-principal
     - principal
8. financial
   - total capital expenditure
   - rent income - housing
     - industrial and commercial

This is followed by the ACCOUNTS for the year ending;

I. Balance sheet (including auditor's report)
II. General revenue account
III. Schedules to the accounts
   1. Statement of advances
   2. Analysis of capital expenditure and depreciation
   3. Property rents and other income less specific outgoings
   4. Statement of total administration costs
   5. Ancillary undertakings
IV. Notes on the accounts

STATISTICAL APPENDICES

A. State of major works schemes
B. Five years' summary of capital expenditure
C. Analysis of land use.

The Balance Sheets of the corporations in Scotland are required to show the following:

Capital advances

(Schedule ; - Amount due to the Secretary of State)

Disposals - net Surplus excludes land disposed of by feu

Current liabilities

Works Contracts

Other Creditors and accrued expenses

Provisions

Repairs and maintenance

Future fire loss

Capital expenditure

(At cost less disposals and depreciation) - Schedule 2 -

Land and buildings

Furniture plant and equipment

General Development Expenditure

Ancillary undertaking

District heating

Capital deficiency on land disposed of by feu

Estimated capital value of Annual feu duties

Loans to other bodies and persons

loans on mortgages and to local municipalities

Current Assets

Stocks and stores

Debtors

Short-term loan to local authority

Balance with Bankers and cash in hand

General Revenue Account

(Balance

less surplus for year)

The General Revenue Account shows the

Expenditure

Maintenance of roads, parks, open spaces

Admin. salaries, office expenditure

Members' remuneration

Interest payable to Secretary of State

Provision for Depreciation

Income

Property rents and other incomes less specific outgoings -

Housing, industry, commercial agriculture and others

Housing Subsidies - Sec. of State
Local Authority

Deficiency grant (Sec. of State. (Sec. 37(2) New Towns Scotland Act 1968)

Other income

There is, however, in the annual reports, a certain amount of inconsistency, and, very often, a poor return of information on employment. The capital account and the General Revenue account give an accurate record of the way in which the money is spent; the rents and returns on the fixed assets are shown clearly, (i.e., the number of houses, industrial floor area provided, the extent of roads, sewers, etc., which are built), but details of the actual human activities, such as the number of persons employed throughout the occupational sectors of the town, have been omitted, except in the case of Stevenage and Bracknell.

The New Town Corporations have a large capital debt of Government loan money which has to be amortized, and this pre-supposes an organizational and managerial capacity to maintain the financial growth process, (i) by which that debt can be amortized, and (ii) to accumulate sufficient surplus from savings for re-investment into the social facilities of the town for its continued growth.

The fact that the new towns are operating successfully is established and recognised, but what is of interest in the context of this thesis is an analysis of the way in which the different corporations have allocated the available investment so as to attain the success of the programme to date.

The information which is published at present on the performance of new towns is far from adequate for the planners and policy-makers in the developing countries to use as a guide for their own investment strategies, particularly in countries which have to optimize their available investment resources towards attaining total national development.

Mr. Schaffer gives the most recent estimate of the cost per person for a new town as being "probably in the region of £4000 per person" in 1972.(81) On the face of it, such a cost puts an enterprise, or the undertaking of a new town, beyond economic justification for use in developing countries.

But is this figure a true indication of the per capita costs for new towns; how was it arrived at, what are the constituent parts which go to make up this figure? Is it £4000 per person all through the development process of the new towns, over a twenty-five year period? One would expect much of the costly infra-structure to be laid down in the early years when there would be few inhabitants, which would mean a high cost per capita initially, but reducing in cost per capita as the number of inhabitants increased over the years. How much of the £4000 per person was public or corporation expenditure as against investment from the private sector?

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(81) op. cit. p.202.

The following sections of the thesis propose to analyse the official information available for the new towns over the past twenty-five years, on a 50% sample basis, and endeavour to trace, for the average new town, the cost per person to the Government, or the amount of expenditure from Government loan money for the construction and management of an average new town.

The method adopted to provide an 'average image' at national level has been to take a 50% sample survey of the new towns in the U.K., selecting representative samples covering

(i) metropolitan overspill
(ii) large city revival
(iii) industrial promotion
(iv) growth area planning
(v) miners' housing

which comprise the five categories on which the sites and purposes for new towns were selected.

3. Method of Sampling and Analysing the Official Information on New Towns

As some new towns have now been in existence for twenty-five years, and some have only recently been inaugurated, the opportunity now exists for obtaining an indication of the investment characteristics for a town during the first ten years of its life compared with those of a town after twenty-five years' investment and experience. Sample case studies have been selected to give a cross-representation of those new towns which were begun in

the period 1946 to 1950, hereafter known as Decade 40 new towns,
1951 to 1960, " " " Decade 50 new towns,
1961 to 1970, " " " Decade 60 new towns.

As a means of correlating the statistical returns for these new towns over the different periods of their life span, i.e. in the first few years, after ten and after twenty years, the sample new towns have been selected by their year of designation, as shown in Table 25, p. 259.

The premise is that the characteristics of investment into new towns in the periods 1946-50, from 1951-60, and 1961-70, are basically the same, i.e. that political or other national variable trends have had little influence on the technical and managerial procedure for the planning and implementation of a new town.

By analysing the statistical returns of the case studies over the eight year period 1963-71, representative cases of new towns ranging from those which are still in their first ten years, to those with twenty-five years' life, as shown in Diagram 83, p.260, can be studied.

Diagram 84, p.261, shows the eight-year sample period, 1963-71, in relation to the life span of the selected new towns.

The indicators which have been selected, and which can be derived from the annual reports to Parliament, are summarised under the following subsection headings:-

1. Population
2. Exchequer advances
3. Capital expenditure
4. Industrial investment
5. Jobs created
6. Housing investment
7. Housing subsidy
8. General revenue or income
9. Cumulative repayment
10. Land purchased
11. Site Development Investment
12. Building Construction Investment.

The above constitutes the extent of the information which can be extracted and synthesized from the official sources of information. It is sufficient to build up a picture of the model of the average performance characteristics of British New Towns from 1946, when they were statutorily inaugurated. In this way, the component parts of the model can be adjusted for any changes in specifications or environmental circumstances prevailing in a developing country.

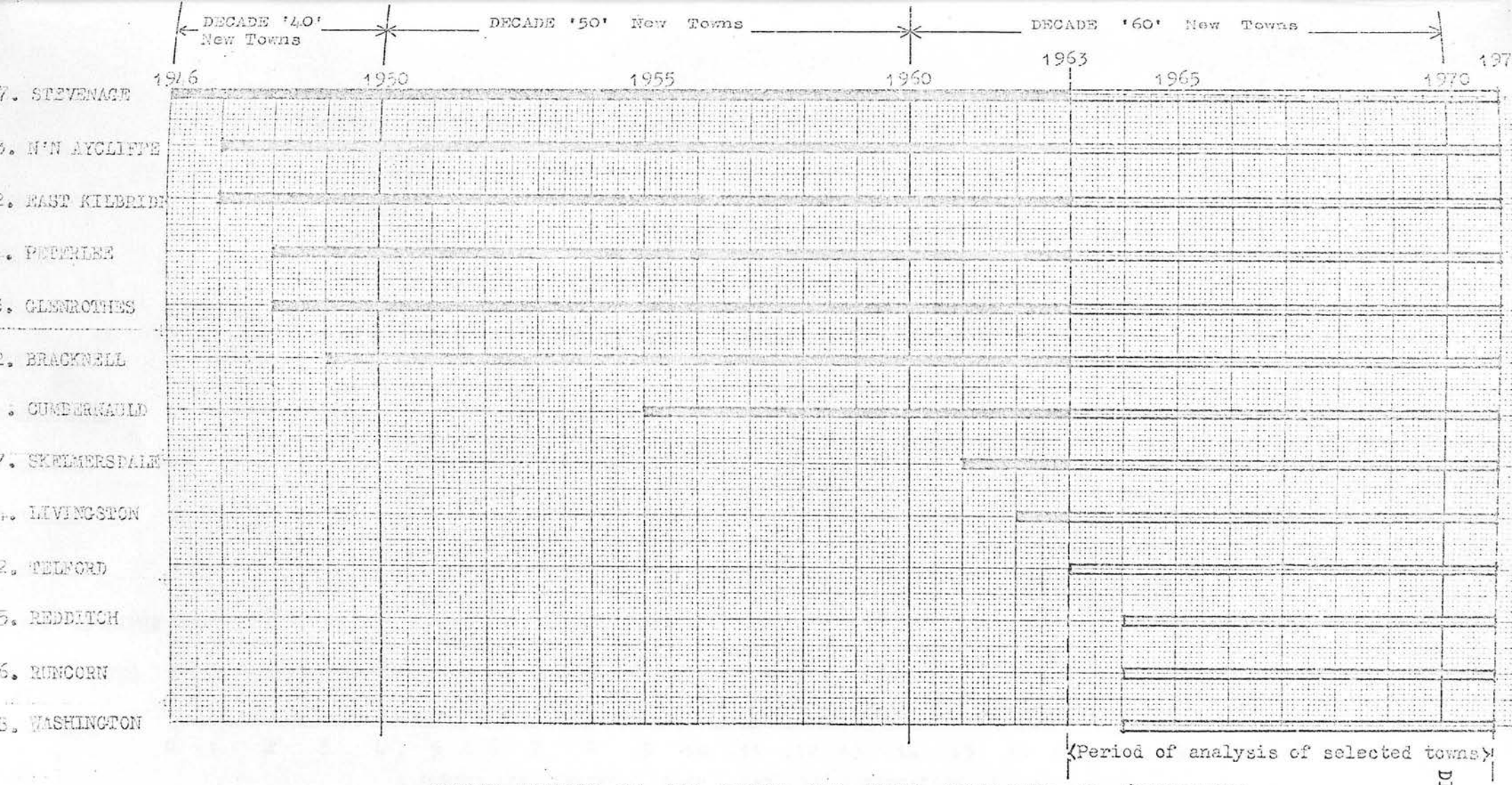
The following sections are a summary of the results of a much more comprehensive, and analytical study of the performance characteristics of the British new towns, carried out by the candidate as part of this thesis.

TABLE 25

NEW TOWNS IN THE U.K. SELECTED
FOR THE SAMPLE STUDY

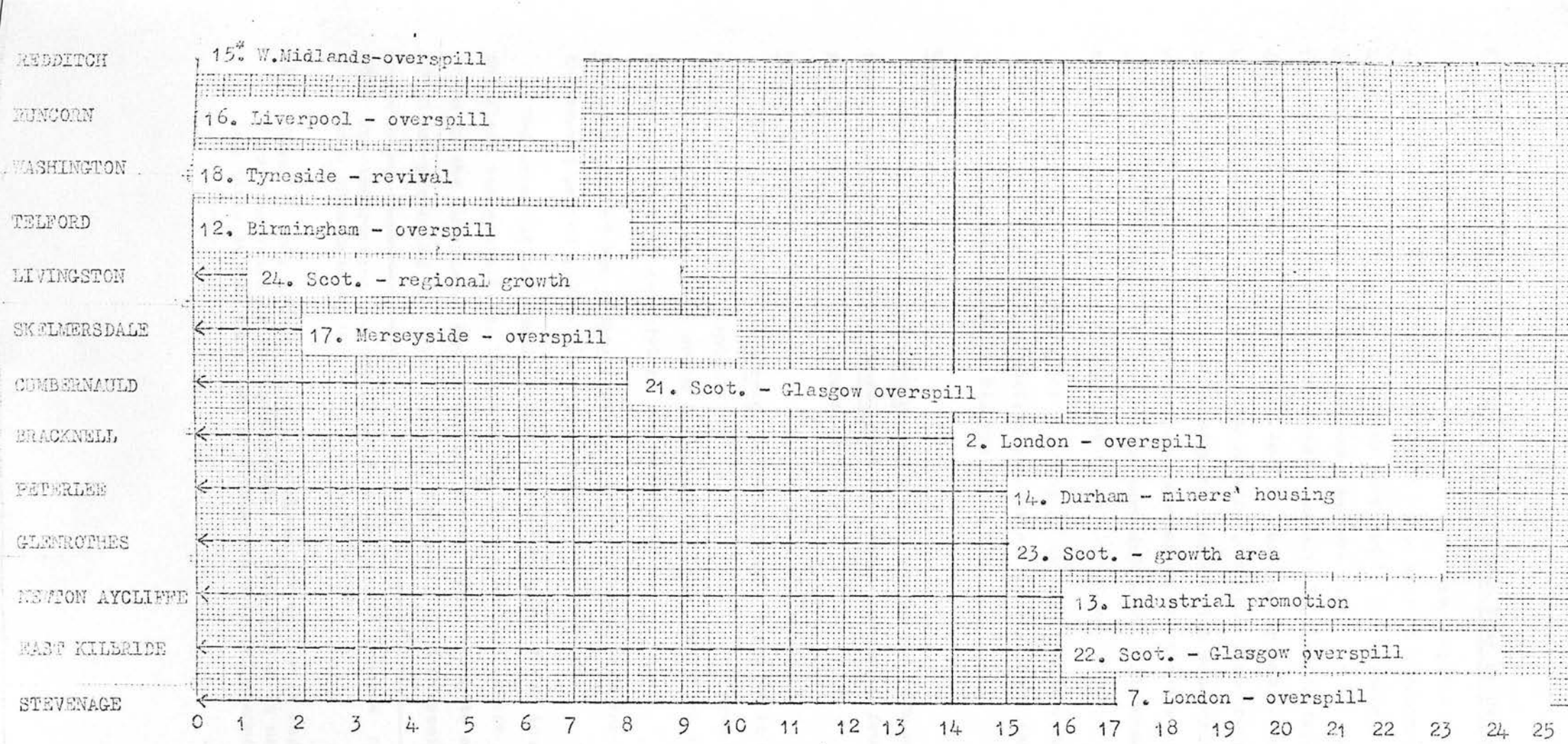
The sample groups fall into the three main categories, according to the 'decade' in which they were designated.

Code No.	Decade '40' New Towns	Year of Designation
07	Stevenage	1946
13	Newton Aycliffe	1947
22	East Kilbride	1947
14	Peterlee	1948
23	Glenrothes	1948
02	Bracknell	1949
	Decade '50' New Town	
21	Cumbernauld	1955
	Decade '60' New Towns	
17	Skelmersdale	1961
24	Livingston	1962
12	Telford	1963
15	Redditch	1964
16	Runcorn	1964
18	Washington	1964



PERIOD COVERED BY THE SAMPLE NEW TOWNS FROM YEAR OF DESIGNATION

DIAGRAM No. 83



EXTENT OF THE SAMPLE ANALYSIS OF THE BRITISH NEW TOWNS
INFORMATION TAKEN OVER THE PERIOD 1963 - 1971

DIAGRAM No. 84

* Number is the code number used in the computer analysis for the information over the period 1963 - 1971 of the sample towns.

4. Capital Investment per Person per Annum from Year of Designation

The notion of planning and building a new town implies that it is an enterprise which requires the outlay of large sums of investment into fixed assets in the early years, an outlay invested in the permanent infrastructure, which may have to wait many decades before it is amortized. These outlays can also be considered as essential pre-investment for the future success of the new town. Such an undertaking has to be supported by a confidence on the part of the investor, whether from the private sector or Government, that such pre-investment, coupled with managerial skills, human participation, and the ultimate production for the free market economy (on which the financial future of the town depends), will formate sufficient capital annually to justify the use of the investment funds.

Three separate methods for arriving at the capital investment per person were possible from the information available, and these are tabulated on Table 26, p.264, and illustrated on Diagram 85, p.265.

Method A

This is based on the average investment per person, for each new town, taken from the year of designation of that town, extracted from the official reports, and covering the period 1963-71.(82)

Method B

This is based on the average investment each year, as it was actually made by the New Towns Corporation.(83) The differences show up in those 'Decade 60' new towns in which there were at least two years from designation before any capital expenditure was undertaken.

Method C plotted the actual capital investment per person for each year of the survey period (1963-71), from the published accounts.

The array of information, when plotted in graph form, indicates that in the first ten years (i.e. Decade 60 New Town examples), there is wide fluctuation in the investment per person per annum, fluctuating to as high as £8920 per person in the first year for Runcorn. Such excessively high costs

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(82) The information was extracted from the annual reports coded, calculated, then printed out by an E.D.P. programme.

(83) Usually, very little capital investment or outlay is made during the first two years by the Corporation, as this period is used for acquiring title to the land, and preparing the detailed planning proposals.

are invariably to meet circumstances peculiar to their locality, which may have meant initial expensive land reclamation, statutory undertakings in the form of water supply, sewerage treatment plants, which were required for site development, etc. Such abnormalities can be analysed against the peculiarities of the situation. It is apparent that in the Decade 40 New Towns, i.e. after fifteen years, the investment per person of Development Corporation finance is stabilized and contained in the limits of £1000 to £945.

The annual investment per capita, obtained by Method C, is considered as indicators, for this study; these figures relate directly to the standards of design, and specifications of structure and services (i.e. all the fixed assets), which are provided within the policies prescribed for British new towns, and can be varied for a case study in the developing countries according to specifications and costs to serve the equivalent human and economic demands.

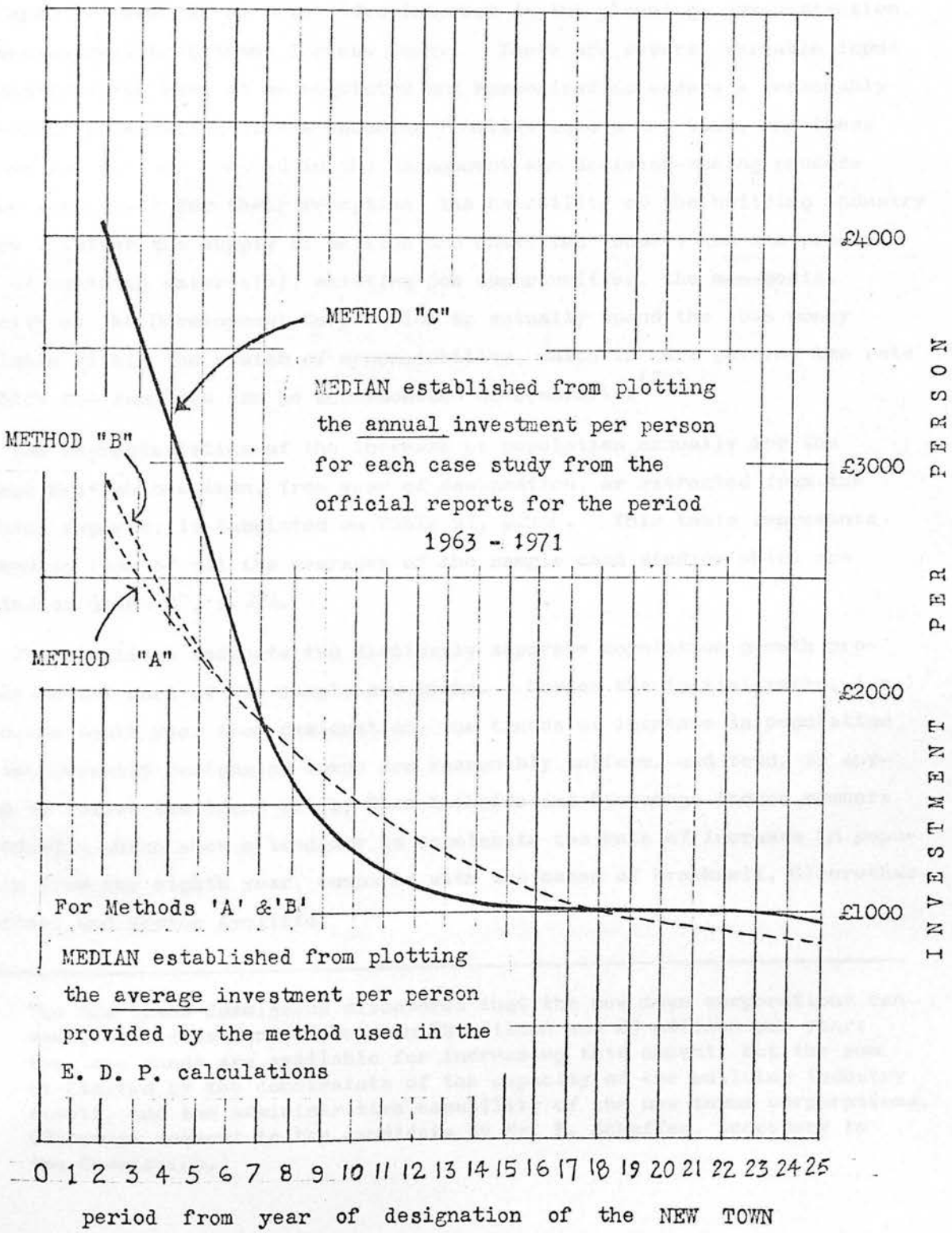
TABLE 26

TABULATION OF AVERAGE INVESTMENT PER PERSON
USING METHODS 'A', 'B' & 'C'

From year of designation	Average investment per person established by methods 'A'	'B'	'C'
	£	£	£
1	3000	3750	4600
2	2700	2850	4000
3	2450	2600	3750
4	2250	2400	3000
5	2100	2200	2760
6	1970	2000	2200
7	1845	2865	1740
8	1725	1735	1550
9	1610	1610	1380
10	1500	1500	1240
11	1420	1420	1170
12	1345	1345	1105
13	1275	1275	1080
14	1210	1210	1055
15	1150	1150	1000
16	1095	1095	1000
17	1045	1045	1000
18	1000	1000	1000
19	960	960	1000
20	925	925	1000
21	895	895	1000
22	870	870	1000
23	850	850	1000
24	835	835	970
25	825	825	945

DIAGRAM No. 85

ESTIMATE OF INVESTMENT PER PERSON
from the year of designation
FOR THE AVERAGE NEW TOWN
during the period 1946-71



5. Population - Rate of Increase

New towns are inherently concerned with the people who are going to inhabit the particular town , who will make them function in the context of the national urban structure, and add to the well-being and productive life of the nation. The rate at which the families have been (or can be) accommodated and integrated into their new society is of vital concern. The rate at which families can be assimilated socially into a new town under peacetime conditions, in which there are other options and alternatives for settlement open to them, is of scientific interest in the planning, administration, and development programmes for new towns. There are several variable input components which have to be regulated and harmonized to ensure a reasonably successful integration of the incoming families into a new town, and these include the methods adopted in the management and decision-making process (often intuitive) for their reception, the capability of the building industry (which involves the supply of skilled and unskilled labour, and the procurement of building materials), existing job opportunities, the managerial capacity of the Development Corporation to actually spend the loan money available within the system of accountability, which in turn governs the rate at which the families can be accommodated successfully.(84)

The characteristics of the increase of population annually for the average British new town, from year of designation, as extracted from the official reports, is tabulated on Table 27, p269 . This table represents the median line of all the averages of the sample case studies which are plotted on Graph 87, p. 274.

The plottings indicate two distinctly separate population growth processes on the part of the sample new towns. During the initial years, i.e. up to the tenth year from designation, the trends of increase in population for the recently designated towns are reasonably uniform, and tend, if anything, to follow the trend set by East Kilbride and Stevenage (coded numbers 22 and 07), which show a tendency to accelerate the rate of increase in population from the eighth year, compared with the cases of Bracknell, Glenrothes, Peterlee, and Newton Aycliffe.

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(84) The New Towns Commission discovered that the new town corporations can manage an investment of between £2 million and £3 million per year; the loan funds are available for increasing this amount, but the sum is limited by the constraints of the capacity of the building industry itself, and the administrative capability of the new towns corporations. (Personal comment to the candidate by Mr. F. Schaffer, Secretary to the Commission.)

On average, the new towns reach a population of 1000 persons (or 286 families accommodated), in the third year from designation. The number increases by the fifth year to 4000 persons, by the tenth year to 12,500 persons (or 3580 families), increasing in the twentieth year to a population of 31,500 (9050 families), and by the twenty-fifth year, 44,000 persons (or 12,600 families), as shown on Table 27, p.269.

The sample case studies indicate that the policy for rate of population increase differs from corporation to corporation, although the samples of Decade 40 new towns divide into two clearly recognizable groups; Group 'A', Stevenage and East Kilbride, having a much higher rate of increase than Group 'B', Bracknell, Glenrothes, Peterlee, and Newton Aycliffe, as shown in Table 28, p.270, and Diagram 87, p.274.

In the first ten years of a new town, the rate of increase of population is very high, though the numbers involved are not; as the population increases in size over the years the percentage rate of increase diminishes from 75% to 60% in the third and fourth year from designation, to a rate of increase of 20% per annum by the tenth year, and 6.25% per annum by the twentieth year, as shown in Table 29, p.271, and Diagram 86, p.272. The rate of increase thereafter tends gradually to diminish further to approximately 5.5% in the twenty-fourth year, which is still higher than the normal rate of growth of the old-established towns in Britain, and considerably higher than national average, which is approximately .5% increase per annum.

In view of the methods which have been adopted universally for measuring national growth rates, against which the needs of the people, as well as the wealth of the nation, are calculated, it is of importance to determine the comparative percentage rates of increase in population and the percentage rate of increase of investment. It is the change in the momentum of activity which can have severe repercussions on the life of the inhabitants, and these changes can reflect severely on those responsible for management.

Table 30, p.273, shows the difference in rates of increase of the Decade 60 new towns and those of Decades 50 and 40. Apart from showing much higher rates of change in the first ten years in the life of a new town,

usually between 40% and 50% average change annually, (in all cases except Livingston), the percentage rate of increase in capital investment exceeds the percentage rate of increase in population.

For Decade 40 new towns, i.e. towns in existence between 16 and 25 years, the percentage rate of change is noticeably reduced to a range between 6% and 9%, with a higher rate of change for Glenrothes, which was 8.80%, to a lower rate of change for Stevenage, which was 3.78% rate of increase of population in the twenty-fifth year.

TABLE 27

CUMULATIVE INCREASE OF POPULATION
FOR THE AVERAGE BRITISH NEW TOWN

The average increase of population for the new towns, (for the 50% sample survey) from the year of designation, is indicated in Diagram 87 as follows:

Number of years from date of designation	Population for the average New Town (Diagram 87)	Number of families housed
1	-	
2	-	
3	1,000	286
4	2,500	720
5	4,000	1,140
6	5,700	1,640
7	7,500	2,150
8	9,000	2,580
9	10,500	3,020
10	12,500	3,580
11	13,700	3,910
12	15,800	4,540
13	17,500	5,010
14	19,000	5,450
15	21,000	6,200
16	22,700	6,500
17	25,000	7,200
18	27,500	7,900
19	29,000	8,300
20	31,500	9,050
21	34,000	9,800
22	36,000	10,300
23	39,000	11,200
24	42,500	12,200
25	44,000	12,600

Average family size for all the case studies

= 3.48 persons per household.

TABLE 28

POPULATION INCREASE BY INCREMENTS OF 5000,
FOR GROUP A AND B NEW TOWNS

(See Diagram 87, p.274)

The sample case studies divide into two distinct patterns of population increase:

Group 'A', Stevenage and East Kilbride, designated in 1946 and 1947, have the following characteristics:

Year from designation	Population of average trend	
6	5,000	
8	10,000	
12	15,000	
13	20,000	Increase of 5000
14	25,000	per annum from the
15	30,000	12th year to the
16	35,000	17th year.
17	40,000	
18.5	45,000	Increase of 5000
20	50,000	per annum each
21.5	55,000	18 months.

Group 'B', Bracknell, Glenrothes, Peterlee, and Newton Aycliffe (Other Decade 40 New Towns)

6	5,000	
8	10,000	
16	15,000	
19	20,000	5000 every three
22	25,000	years after the
25	30,000	16th year.

TABLE 29

PERCENT CHANGE ANNUALLY (AVERAGE) OF POPULATION
FROM YEAR OF DESIGNATION

Years from date of designation	% rate of increase of population for that preceding year
0	-
1	-
2	100
3	75
4	60
5	47
6	38
7	31
8	27
9	23
10	20
11	17
12	15
13	13
14	11
15	9.5
16	8.25
17	7.75
18	7.25
19	6.75
20	6.25
21	6.00
22	5.75
23	5.65
24	5.5

DIAGRAM No. 86

CHANGE OF PER CENTAGE RATE OF INCREASE ANNUALLY WITH THE GROWTH OF THE NEW TOWN

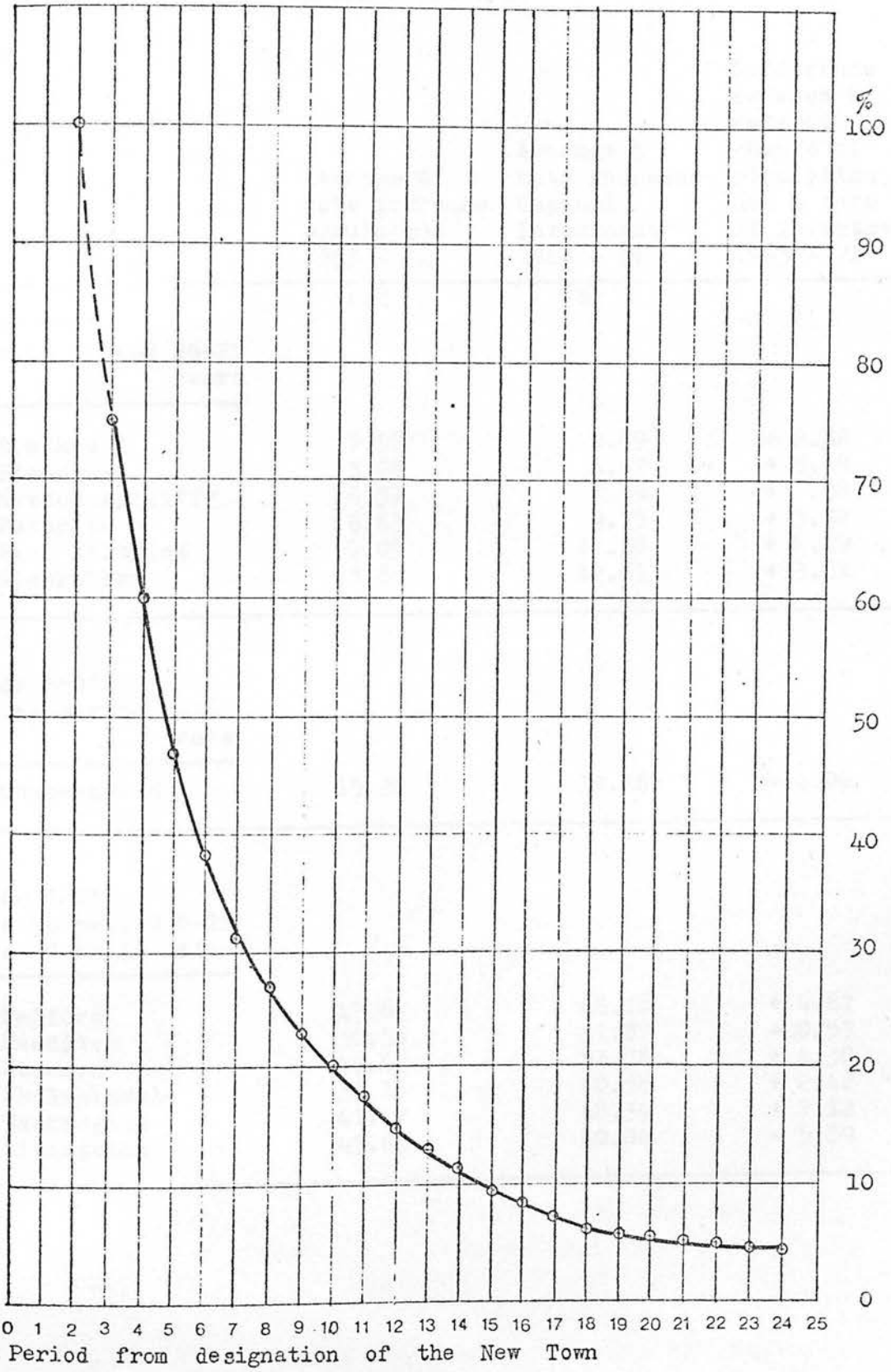


TABLE 30

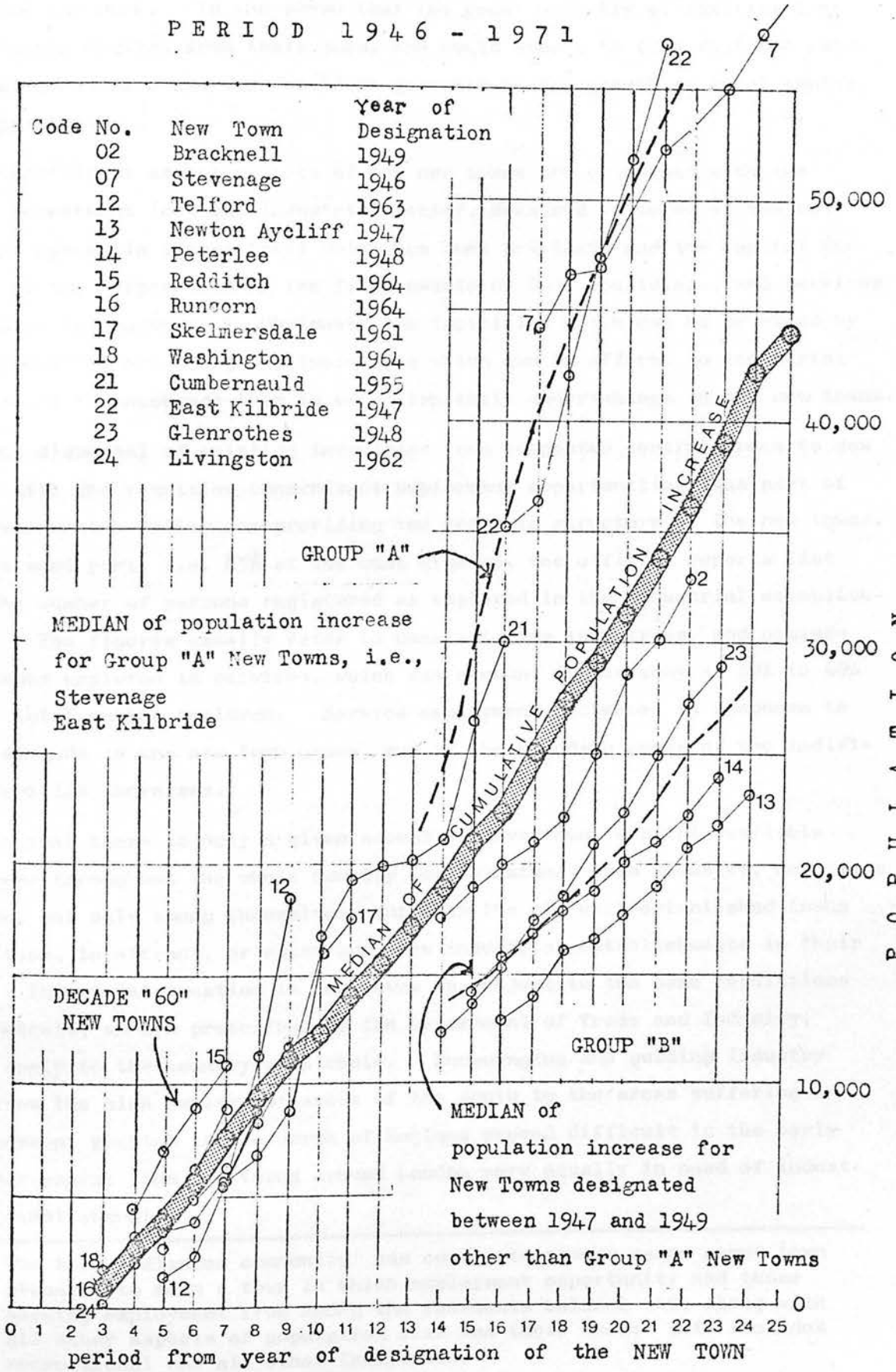
COMPARISON OF PERCENT RATE OF CHANGE
(AVERAGE FOR PERIOD 1963-71):-

(a) Population
(b) Capital Investment

	Average % rate increase population 1963 - 71	Average % rate increase Capital Investment 1963 - 71	Difference between % rate of change of population and % rate of investment 1963 - 71
	(a)	(b)	
Decade '40' Towns in period 16-25 years			
2 Bracknell	7.57	9.89	+ 2.32
7 Stevenage	3.78	6.97	+ 3.19
13 Newton Aycliffe	6.31	7.29	+ .98
14 Peterlee	6.43	9.75	+ 3.32
22 East Kilbride	7.09	11.38	+ 4.29
23 Glenrothes	8.80	12.61	+ 3.81
Decade '50' Town in period 8-16 years			
21 Cumbernauld	15.20	19.26	+ 4.06
Decade '60' Towns in period 0-10 years of their life			
12 Telford	43.64	48.26	+ 4.62
15 Redditch	30.54	51.07	+20.53
16 Runcorn	49.46	53.76	+ 4.30
17 Skelmersdale	38.16	40.58	+ 2.42
18 Washington	41.27	48.39	+ 7.12
24 Livingston	45.63	40.04	- 5.59

DIAGRAM No. 87

CUMULATIVE POPULATION INCREASE OF AVERAGE NEW TOWN DURING THE PERIOD 1946 - 1971



The population figure for each year of each case study extracted from the annual report of each New Town Corporation during the period 1963 - 1971

6. Industrial Investment and Resulting Employment

The Government's intention, in the 1946 Act, was that new towns should be 'balanced communities'[(85)] within which the majority of inhabitants could both live and work. In the sense that the great majority of families live on an income derived from their jobs, one would expect to find that the rate of development of a new town would be governed by the growth of local employment opportunity.

The official annual reports of the new towns are concerned with the public investment into the industrial sector, measured in terms of the area of floor space (in square feet) which has been provided, and the capital invested by the Corporation in the fixed assets of land, buildings, and services for industrial purposes. Obviously the facilities which can be provided by the Corporation are among the incentives which can be offered to industrial enterprizes to encourage them to establish their undertakings in the new towns.

The dispersal of existing industries from congested central areas to new towns, with the resulting concomitant employment opportunities, was part of the Government's policy for providing the economic structure of the new towns. For the most part, i.e. 85% of the case studies, the official reports list only the number of persons registered as employed in the industrial establishments. The figures usually refer to manufacturing industries, and exclude the number employed in services, which can account for as many as 20% to 40% of the total number employed. Service employment increases in response to local demands as the new town grows, and as the spending power of the individual families increases.

In that there is only a given amount of investment capital available each year throughout the whole country for investment into industry, new towns compete, not only among themselves, but with the old well-established towns and cities, to attract, or encourage, new industrial establishments in their area. Industrial location in new towns is subject to the same regulations and controls, as are prescribed by the Department of Trade and Industry, which apply to the country as a whole. Encouraging and guiding industry away from the high employment areas of the south to the areas suffering an unemployment problem in the north of England proved difficult in the early post-war years; the new towns around London were equally in need of industrial establishments.

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(85) The term 'balanced community' has come into common usage among town planners to mean a town in which employment opportunity and those seeking employment from among the residents balance out, along with all other aspects of population size and their need; this includes recreational and all other facilities.

In the planning and management process of a new town, the quantitative interdependence of the various occupational sectors, especially in relation to the various phases during the dynamic growth process, becomes important if any effort is made to optimize the use of the available resources, or to establish the quantitative control system for optimizing the use of available resources.

At present, the Corporations are not required to register the total number of persons employed throughout their town, and because of this, there is an inconsistency in the information provided in the official reports. If these returns are to be useful for planning purposes, it would be necessary for all new town corporations to extend their present system of reporting on employment, and prepare for the new system of taxation which was introduced into Britain on 1st April 1973. This new system provides that purchase tax and selective employment tax be abolished, and tax will become payable on the value added by all the processes of manufacture, and distribution of goods and the supply of services (including anything treated as such a supply), and on the import of goods into the U.K.

This immediately infers activities carried out within the clearly defined jurisdictional areas of towns, new towns, or in districts, as statutorily defined under the Local Government Reform Act. The introduction of this new tax system is of profound importance to the financial structure of the local authority, or Development Corporation, as it will provide a new system of statutory information collation by each individual enterprize,(or employer,) in a new town; there should be no reason for breach of privacy if the aggregate of this information were made available to the planners and managers of the new towns.

The basic classification of occupational sectors of any district, town or community, by the VAT Trade Classification is as follows:-

1. Primary Industries
2. Manufacturing Industries
3. Construction
4. Utilities
5. Transport and Communication
6. Distributive Trades (1) Wholesale
7. " " (2) Retail
8. " " (3) Dealers

9. Services (1) - Insurance, banking, finance & business services
10. " (2) - Professional and scientific
11. " (3) - Miscellaneous
12. " (4) - Public Admin. and defence

The new town planners (and other planners, at national and regional level) would benefit if the information included the total number of persons who are both resident and employed in the jurisdictional area of the new town, those resident but employed elsewhere, and those employed but not resident. The information would be even more meaningful if it were further broken down by the number and sex of those employed in each occupational sector (according to the above sector classification).

Very approximate estimates are made by the development corporation's staff on the total number of persons who are employed in a new town, and these are published in the new year edition of "Town and Country Planning" each year; unfortunately, these are unofficial estimates, and though useful, such as the following table for employment for the year ending 1971, the information is still inadequate to arrive at an accurate indication of new town employment characteristics, or the occupational structure of the towns:-

	Population 1971	Estimated Total Employed	%
Bracknell	35,000	18,300	52
Stevenage	70,000	33,000	47
Telford	82,000	37,000	45
*Newton Aycliffe	23,850	1,095	4.5
Peterlee	25,400	6,725	27
Redditch	38,000	23,000	61
Runcorn	40,000	21,500	53.5
Skelmersdale	30,200	11,000	36
Washington	29,450	11,463	39
Cumbernauld	34,000	8,889	26
East Kilbride	65,000	25,540	40
Glenrothes	30,000	10,700	36
Livingston	16,400	4,626	29

The Aycliffe Industrial Estate*, which employs 9,234, most of whom are resident in Newton Aycliffe, is not part of the New Town area, and therefore, statistically, the industrial employment therein is not included in the information returns for the new town; it is excluded from the

average percentage of employed population to total population housed in new towns. From the above table some 41% of resident new town population are employed.

An attempt was made to correlate the information from the official reports pertaining to investment into the industrial sector, the number of industrial jobs created, the average cost per each job created, and the percentage relationship between industrial occupation and service occupation, for the average British new town. The information available is set out in Table 31, p.280, but the basis on which the information is provided is so inconsistent, that little can be drawn from the table as an indicator.

Table 32, p.281, shows the relationship between the number of jobs created (again, on an inconsistent basis for the returns), and the capital invested into the industrial sector by the Corporation; there were no records of the value of investment into the industrial sector by the private sector.

The annual average investment per person into the industrial sector by the Corporation was plotted for each year, from the year of designation, in an endeavour to arrive at some median of the cost per job created; this is shown on Diagram 88, p.282, which shows very wide deviation from the median.

A source which gives an indication of the characteristics of the occupational structure of new towns is the 1966 sample survey, which included some of the new towns. The following summary drawn up by P. Cresswell and R. Thomas, Employment and Population Balance, Chapter 8, New Towns, the British Experience, p.70, demonstrates the value of collating the information on occupational structures for all new towns, and regularly, rather than on a decennial basis.

OCCUPATIONAL STRUCTURE OF SELECTED NEW TOWNS
FROM THE 1966 SAMPLE SURVEY

Occupation	Crawley	Glenrothes	Harlow	Average for Great Britain
	(percentages of total employment)			
Primary	0.3	1.3	0.2	5.5
Manufacture of engineering and electrical goods	31.8	35.6	30.9	9.0
All other manufacturing	21.2	17.9	22.9	25.8
Construction	6.3	19.5	8.7	7.8
Gas, electricity and water	0.6	0.0	0.8	1.7
Transport and communication	5.0	1.4	2.8	6.7
Distribution	10.5	6.7	10.2	13.4
Insurance, banking and finance	2.8	2.0	1.0	2.7
Professional and scientific services	10.3	9.8	14.4	10.3
Miscellaneous services	7.9	4.3	5.6	10.9
Public administration	2.8	1.4	3.2	5.8
Inadequately described	0.4	0.0	0.2	0.3

Source: Census of Population.

This table tends to support the findings from plotting a median of the trend of the creation of jobs in the industrial sector, on an annual basis, from the year of designation, as shown on Diagram 89, p.283. Professional and scientific services in the new towns are usually related to industry, and could well be included in the average for determining the indicator for the percentage of those employed in the industrial sector.

For Crawley, 63.3%, for Glenrothes, 63.3%, and for Harlow, 68.2% of those employed in new towns are related to industry and manufacture. The median of the number employed in industry, extracted from Diagram 89, p.283, when related to the average population of a new town after 25 years, (Diagram 87, p.274), of 44,000, and the indicator of 41% of population (new town)employed, would indicate an employed population of 18,000; of this, the 11,500 (as indicated on the diagram) indicates that some 64% of total employed are in industry.

TABLE 31

COMPARISON OF INVESTMENT INTO INDUSTRY

AND JOBS CREATED

(INFORMATION NOT CONSISTENT FOR THE SAMPLE CASE STUDIES)

Ending year 1971 for NEW TOWNS	Cap. exp. £,000	Invest. into Indus. £,000	Indus. invest. as % of cap. exp.	No. employed in industry	Estim. of total Employ.	No. employ. indus. as % of total employ. %	Total pop. n	No. employ. as % of tot. Pop. %	Est. Invest. per Indus. Job. £ (EDP)
2 Bracknell	41,525	3,491	8.41	12,080	17,970	68	38,000	48	194
7 Stevenage	63,190	6,453	10.21	19,00	32,000	59	68,000	48	201
12 Telford	32,067	2,223	6.93	2,191					1,014
13 Newton Aycliffe	16,171	6,000	37.10	9,005			23,850		666
14 Peterlee	22,525	1,756	7.80	3,632	6,725	54	25,400	27	483
15 Redditch	30,062	3,453	11.49	2,753	23,000	12	38,000	60	1,254
16 Runcorn	28,869	1,919	6.69	2,853	21,500	13	40,000	54	672
17 Skelmersdale	41,192	2,602	6.32	6,658	11,000	60	30.200	36.5	390
18 Washington	20,300	2,307	11.36	3,207	11,463	28	29,450	39	719
21 Cumbernauld	46,287	3,256	7.03	5,699	8,889	64	34,000	26	571
22 East Kilbride	66,960	4,817	7.19	15,400	24,800	62	65,500	39	325
23 Glenrothes	26,302	3,217	12.23	5,514	10,700	52	30,000	36	583
24 Livingston	28,746	1,262	4.39	2,713	4,626	59	16,400	29	465

TABLE 32

NUMBER EMPLOYED IN INDUSTRY COMPARED WITH VALUE OF INVESTMENT

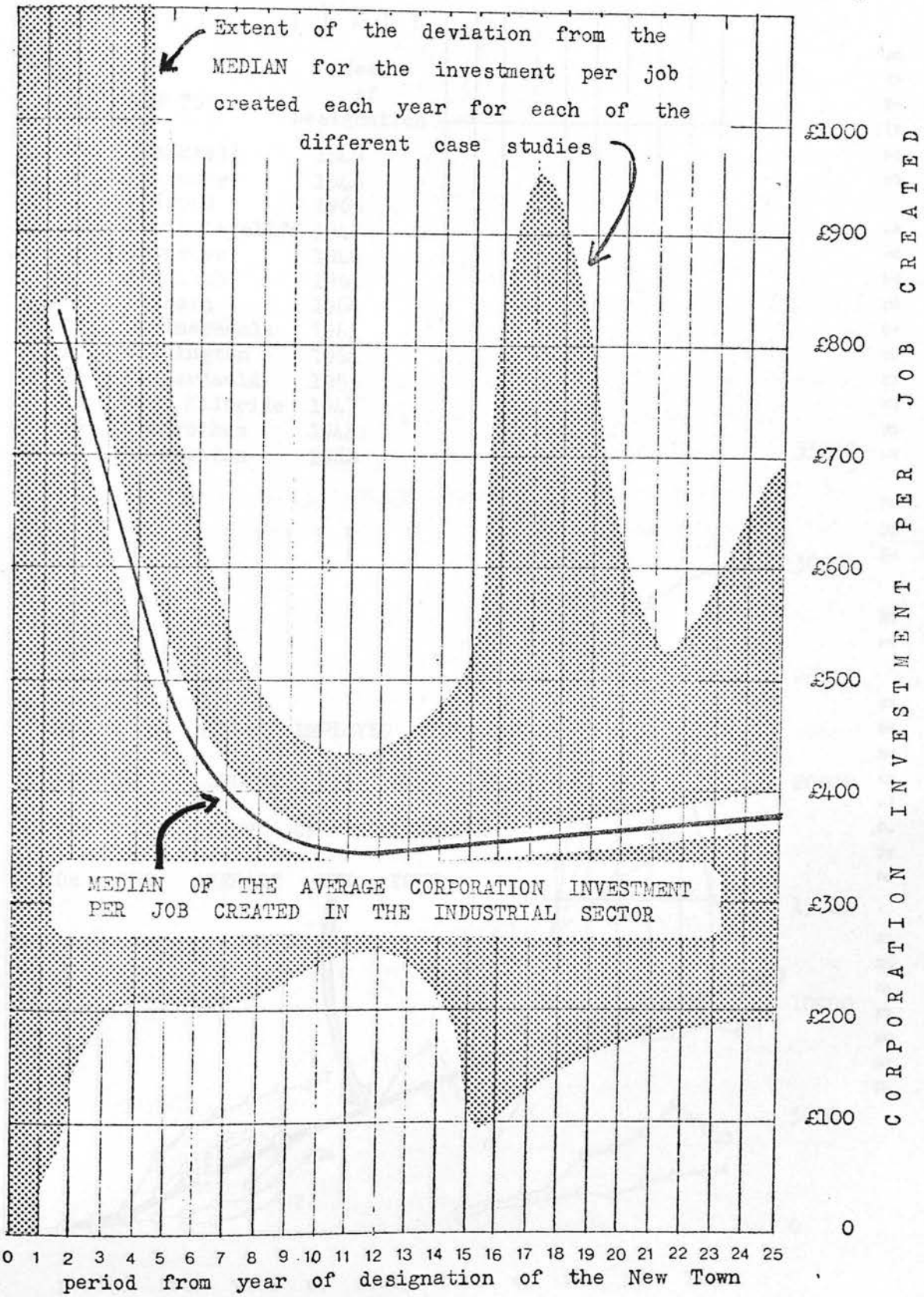
INTO INDUSTRY FOR EACH OF THE SAMPLE CASE STUDIES OVER THE PERIOD 1963–71

	63	64	65	66	67	68	69	70	71
7.*Stevenage	13194	14632	25800	27300	28000	29000	30000	30500	32000
(17–25) £000	5957	6043	6290	6290	6290	6399	6430	6453	6453
13.*N. Aycliff	4861	6077	7914	8652	8620	8441	9109	9704	9005
(16–24) £000	2300	3000	3500	3600	3600	4000	5000	5500	6000
22.*East Kilbride	3274	3451	14355	18142	20166	21511	23395	15151	14782
(16–24) £000	2412	2675	3020	3272	3871	4179	4251	4586	4317
14.*Peterlee	1338	1643	1821	2053	2375	2181	3172	3319	3332
(15–25) £000	122	309	355	560	708	958	1598	1756	1756
23.*Glenrothes	1167	1844	2200	2648	4120	4386	5318	6572	5514
(15–25) £000	680	1504	2113	2386	2467	2486	2617	2759	3217
2.*Cracknell	6669	7034	13000	13500	13750	14250	16700	17782	17970
(14–22) £000	1954	1954	2105	2105	2648	3112	3289	3491	3491
21.*Cumbernauld	2362	3120	3500	4341	4649	6733	7932	6301	5699
(8–16) £000	514	718	893	1408	2001	2834	2972	3076	3256
17.*Skelmersdale	–	–	805	2655	3759	4444	5702	6100	6658
(2–0) £000		25	407	783	1240	1390	1650	2313	2602
24.*Livingston	–	20	400	777	1500	1804	2012	2502	2713
(1–9) £000		18	89	178	364	371	704	1178	1262
12.*Telford	–	–	–	–	–	218	539	1213	2101
(0–8) £000				22	250	494	1163	1935	2223
15.*Redditch	–	–	–	–	198	768	1345	2000	2753
(0 to 6) £000					15	251	683	2195	3453
10.*Runcorn	–	–	–	100	343	750	1032	1597	2853
(0 to 6) £000				16	310	729	1040	1732	1919
19.*Washington	–	–	–	–	145	298	774	2055	3207
(0 to 6) £000				2	121	460	902	1555	2307
Total Number Employed	37865	43621	79095	72568	87625	94784	107030	104796	108977
Total invested into industry £000	£13939	£16246	£18772	£20022	£23885	£27663	£32499	£38509	£42756

*Period from designation

DIAGRAM No. 88

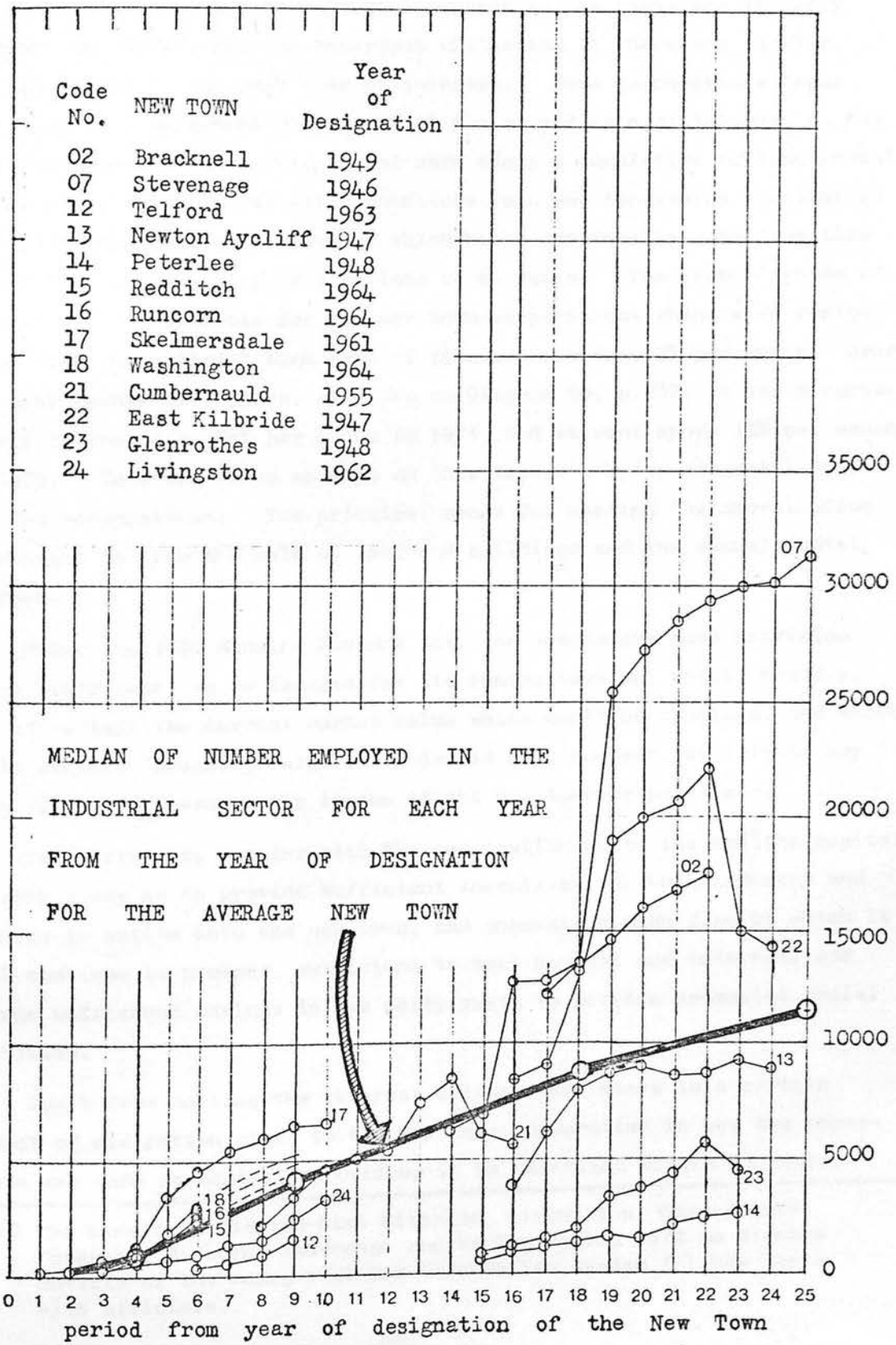
CORPORATION INVESTMENT PER ANNUM PER JOB CREATED IN THE INDUSTRIAL SECTOR OF THE NEW TOWNS DURING THE PERIOD 1946 - 1971



Information from the annual reports of the New Town Corporations, being the sum invested by the Corporation in any one year into the industrial sector divided by the number of persons employed therein.

DIAGRAM No. 89

CUMULATIVE INCREASE IN JOBS IN THE INDUSTRIAL SECTOR OF THE AVERAGE NEW TOWN, 1946-71



Figures from the annual reports of the New Town Corporations for the period 1963 - 71; Stevenage (07) includes jobs other than employment in the industrial sector.

7. Repayment Characteristics

Discussions with officials from several of the New Towns Corporations in 1972[86] indicated that the main criterion for repayment in the early years is to meet the interest obligations, whilst repayment of capital would follow in later years, as the income of the corporation increases. The annual amortization commitment increases as the loans are actually accepted and spent, and the repayment obligation is increased further, with increases in the bank rate of interest. Some corporations treat each loan as a repayment obligation at the agreed rate of interest at the time the loan was taken out, whilst some adopt a cumulative rolling annual budget which consolidates all expenditure into one increasing corporation debt, the repayment obligation of which has a continually extending time period for repayment, up to a maximum of 60 years. The former system of accounting is favourable for the new town corporations which were designated when the official bank rate of interest was only 3% per annum; over the past twenty-five years, as shown on Diagram 90, p.287, it has progressively increased to $8\frac{1}{2}$% per annum in 1971, and it went above 10% per annum in 1973. Interest rates as high as this impose a heavy financial load for the corporations. The principal means for meeting the amortization commitment is from the sale of land and buildings and the annual rental charges.

Under the 1972 Housing Finance Act, the Government made provision for a 'fair rent' to be charged for all rented housing, which, broadly, was to reflect the current market value which could be obtained, and which would exclude 'scarcity value'. This did not, however, contribute any significant increase to the income of the new town corporations.

The difficulty remains with the corporation as to the use of the capital in such a way as to provide sufficient incentives for both industry and workers to settle into the new town, and generate a cash flow by which it will continue to prosper, sufficient to meet capital and interest, and accrue sufficient savings in the early years to provide essential social amenities.

Apart from meeting the interest obligations, there is a certain amount of discretion given to the New Town Corporation in how the repayments are made on capital, providing it is amortized within 60 years.

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(86) The candidate visited East Kilbride, Livingston, Cumbernauld, Peterlee, Runcorn, Stevenage and Harlow during 1972 to discuss details of the management and information system for new towns with officials.

Arriving at an indicator of the repayment characteristics for the average British new town over the past 25 years has the added complication of the continually increasing bank rate of interest. As shown on Diagram 90, the repayments rate as a percentage of capital advances for the years 1963 and 1971, as follows, are invariably slightly in arrears of the mounting interest rate, though the more recent, Decade 60, new towns are making repayment at a rate higher than Decade 50 and Decade 40 new towns. These figures have been computed from the information contained in the annual reports of the corporations.

		New Towns	Repayment Rate as a % of Advances		Value of Income as a % of Advances		Number of years from designation to 1971
			1963 %	1971 %	1963 %	1971 %	
Decade '40'							
49	2	Bracknell	5.55	6.71	5	5.87	22
46	7	Stevenage	5.31	6.28	5.57	6.07	25
47	13	Newton Aycliffe	5.05	6.25	5.03	5.71	24
48	14	Peterlee	5.24	6.57	4.89	6.24	23
47	22	East Kilbride	5.43	6.49	5.09	6.21	24
48	23	Glenrothes	5.45	6.69	4.98	6.18	23
		Average	5.34	6.50			
Decade '50'							
55	21	Cumbernauld	6.09	7.22	4.93	5.80	16
Decade '60'							
63	12	Telford	5.48	8.24	56.16 (1964)	5.75	8
64	15	Redditch	5.17	8.13	46.55 (1965)	6.75	7
64	16	Runcorn	5.41	8.52	47.30 (1965)	6.36	7
61	17	Skelmersdale	5.69	7.92	20.05 (1964)	6.59	10
64	18	Washington	6.21	8.51	7.59 (1966)	5.95	7
62	24	Livingston	5.77	7.77	6.15 (1964)	6.15	9
		Average	5.62	8.15			

The consolidated annual accounts for the year 1972-73 show that in total, £1,057 million in capital advances have been released, and up to this time, from 1946, for the 24 new towns in Britain, £31 million have been repaid against the capital advances, i.e. not quite 3% after 26 years.

Diagram 91, p.287, shows the cumulative capital investments for the individual case studies, all of which show a reasonably consistent ratio of increase in investment. The characteristics of the cumulative investment by each of the sample case studies, show a widely differing investment policy among the Development Corporations.(87) The Decade 60 new towns, i.e. those which were designated and began life during the period of the survey, 1963-71, are reasonably consistent. The Decade 40 new towns show cumulative investments ranging from £65 million (in the case of East Kilbride) to £19 million (in the case of Newton Aycliffe) over the 20 to 25 year period, though the Consolidated Annual Accounts for the year ending 31st March 1973, shows the following for the first three new towns after 26 and 25 years respectively:-

	Capital Advances (£,000)	Repayment of Advances (£,000)	Repayment as a % of Advances after 25/26 years
Stevenage	£70,047	£3,053	4.34% - 26 years
(population)	(72,500)		
East Kilbride	£71,344	£2,327	3.25% - 26 years
(population)	(66,500)		
Newton Aycliffe	£18,020	£881	4.9 % - 25 years
(population)	(21,500)		

For the purposes of this comparative study, it is concluded that in the reality of the situation prevailing in Britain over the past 26 years, the new towns have met the repayment obligations on the interest on the capital advances at the prevailing bank rate, and have amortized approximately 4%, on average, of capital advances after approximately 26 years; the average for the total new towns programme in Britain is 3% return of capital after 26 years.

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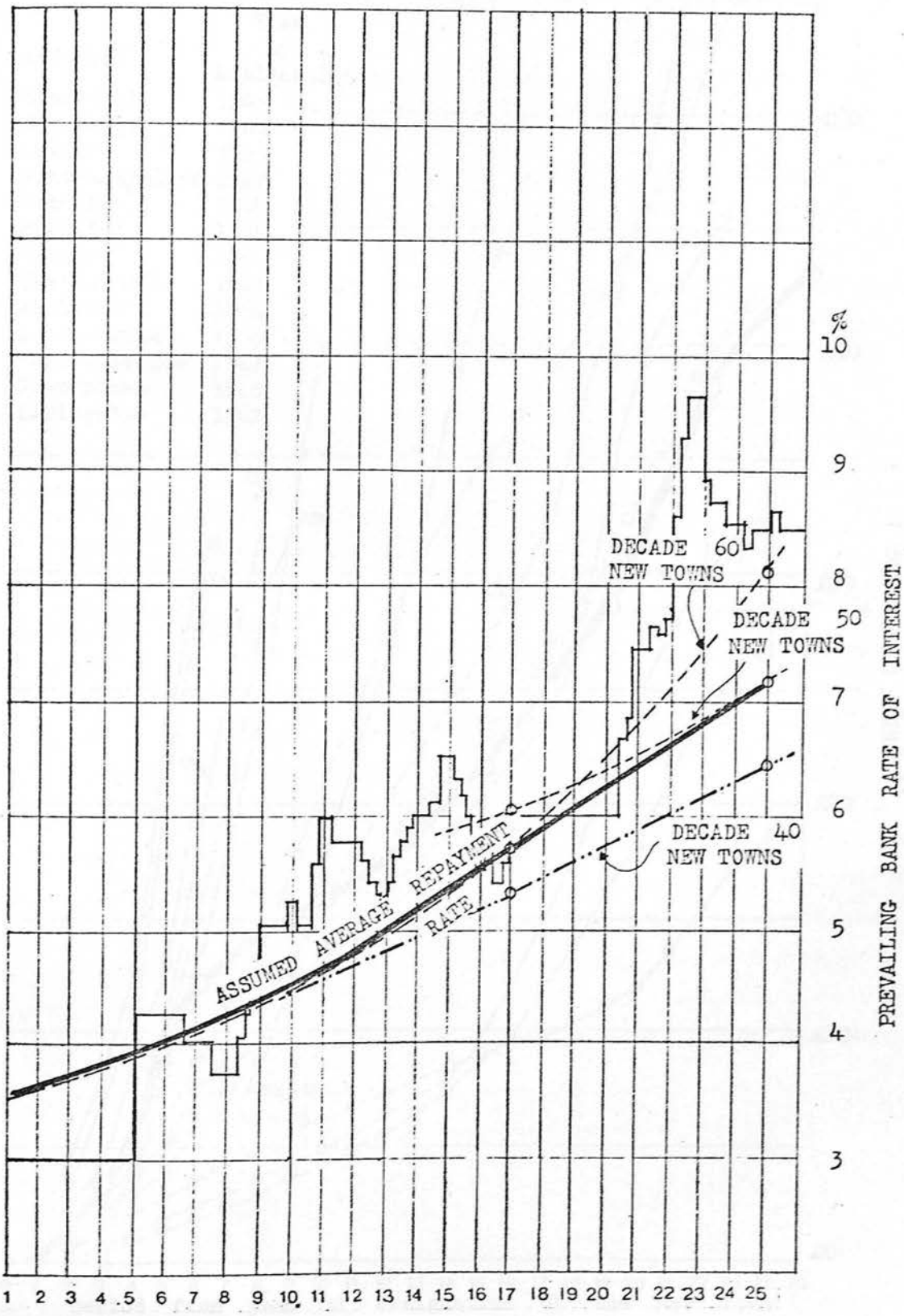
(87) Tracing the reasons behind this differing investment policy, or the factors controlling it, could well form the basis of another research study into new towns. The relationship between the rate and amount of annual investment and the financial and social success of a new town, especially in relation to the way in which the social amenities are provided in the early years, is a subject equally worthy of serious study.

DIAGRAM No. 90

INTEREST RATE PER ANNUM PAYABLE BY THE NEW TOWN CORPORATIONS IN COMPARISON WITH THE RATE OF REPAYMENT PER ANNUM (AVERAGE)

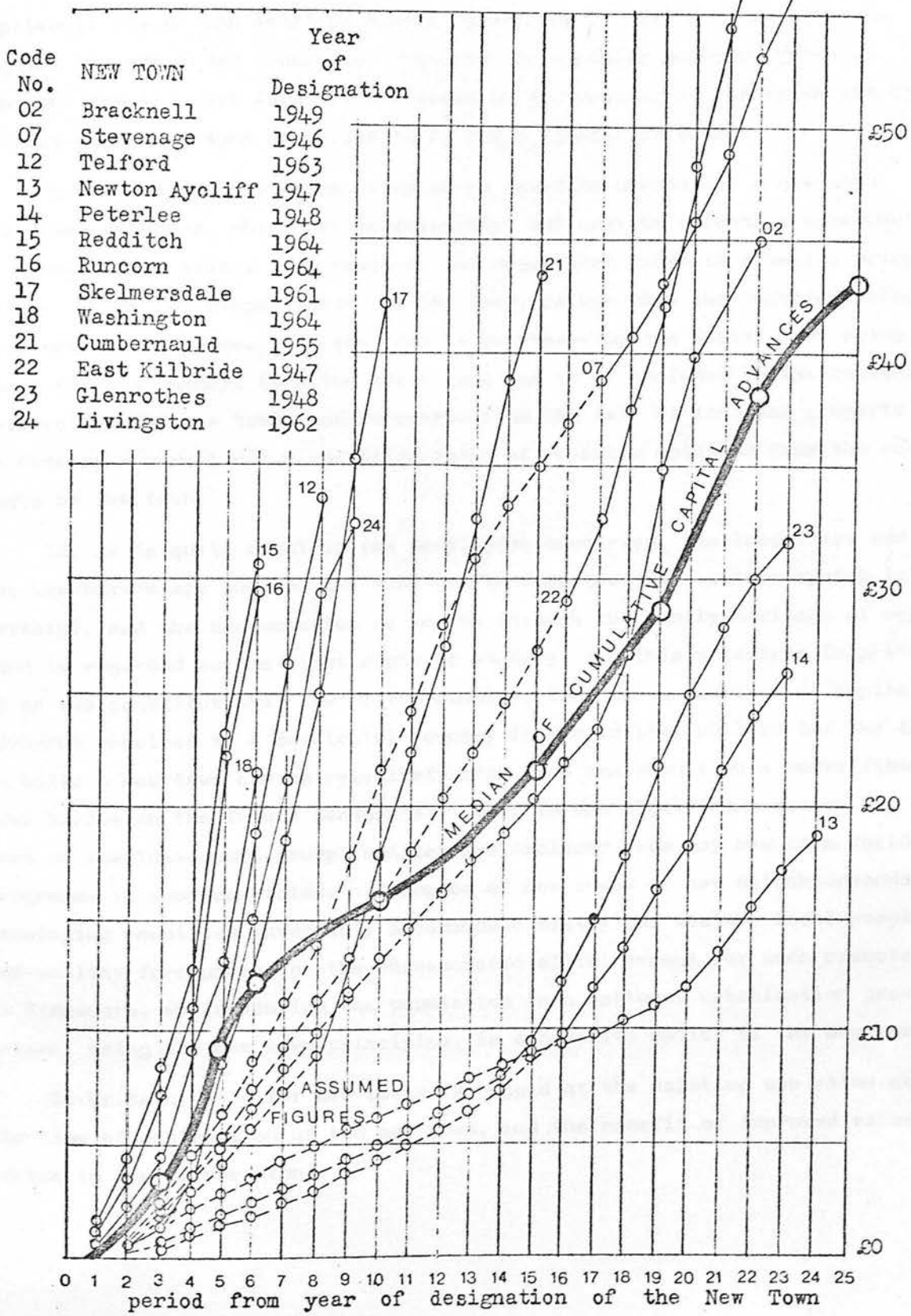


From 1947

op. cit., Schaffer, p. 214

DIAGRAM No. 91

CUMULATIVE CAPITAL ADVANCES FOR AVERAGE NEW TOWN DURING THE PERIOD 1946 - 1971



The figure for the Capital Advances for each year of each case study extracted from the annual reports of the New Town Corporations for the period 1963 - 1971

8. Sectorial Investment per Person

(i) Land.

In the free market economy of many of the developing countries (and not unlike the historical examples in Britain), land ownership has been the measure of family wealth. Under constitutions based on the old Roman law, Napoleonic law or the American system, provision is made for the State to acquire by compulsory order land required for a public purpose, known as 'eminent domain', but land for new towns or for housing is rarely deemed by the law-makers in such countries to be for a 'public purpose'.

Under such circumstances, land which would be needed for a new town could be purchased, then, not compulsorily, but only by voluntary agreement at a negotiated price. In reality, the negotiated price is always a price nearer to the 'developed value' of the land, rather than the 'under-developed' or existing use value. If the land is purchased by the State, i.e. using the taxpayers' money, then the total cost has to be included in the capital outlays for the new town, and recovered from the sale of land and property at developed market value and other forms of revenues obtained from the occupants of the town.

If, as is quite usual in the developing countries, the landowners and the law-makers are one and the same (reflecting the 18th century system in Britain), and the accumulation of wealth through the family heritage of one's land is regarded as the first right of society, and this principle is protected by the constitutional law of the country, then the proportion of capital advances required in a developing country in the initial outlays for the land to build a new town can be relatively high, and can result in a heavy financial burden on the future occupants. This is one significant reason why most of the low-income group families are excluded from any new town building programme in such countries. Examples of new towns or new neighbourhoods in developing countries invariably accommodate mostly the wealthy local people, and wealthy foreigners, or the bureaucratic elite, except for such examples as Singapore, where housing the population in a national urbanization programme, using the new town principles, is a positive policy of the Government.

In Britain, land for new towns is pegged at the existing use value at the time of designation of the new town, and the benefit of improved values accrue to the Corporation.

In 1947, the Town and Country Planning Act was passed with the objective of controlling both land use and land costs, through several devices, one of which was through 'development charges' being levied on improved values accruing to the land-owners. There have been some significant changes in the administration of the Ministry of Town and Country Planning over the past twenty-five years; the use of 'development charges' on land by the Government was abandoned five years after it was introduced as being unworkable, and inhibiting development, rather than furthering it. Since then, land prices have been regulated by 'permissible uses', as statutorily defined by the town and county 'development plans'.

Land for the purpose of the planning and construction of a new town can be acquired by 'compulsory purchase orders' from the Government, if it becomes necessary, though voluntary negotiations at "existing use value" is preferred by the authorities.

What is of particular concern in this study is to identify the cost per person of land purchased by the corporation for a new town; whether the whole of the area of land is acquired before construction work begins, or whether the land is designated and 'frozen' until it is required for construction. In the latter case, the existing owner has the right of use until the land is needed, but they do not qualify for any other form of compensation for loss of use.

In one sense, plotting out the actual investment allocation in land for each new town case study would not be very meaningful, but with the above in mind, determining the proportional allocation into land acquisition, and the rate of investment per person per annum, i.e., related to the 'time value' of the money, such an analysis is relevant.

Table 33, p.291, lists the comparison of annual investment per person into land with the total capital expenditure per person by the corporation from year of designation.

Diagram 92, p.292, shows the median line from which these averages were taken; this was established by taking the annual figures for cost of land/person purchased for each case of the sample studies, for the period 1963-71.

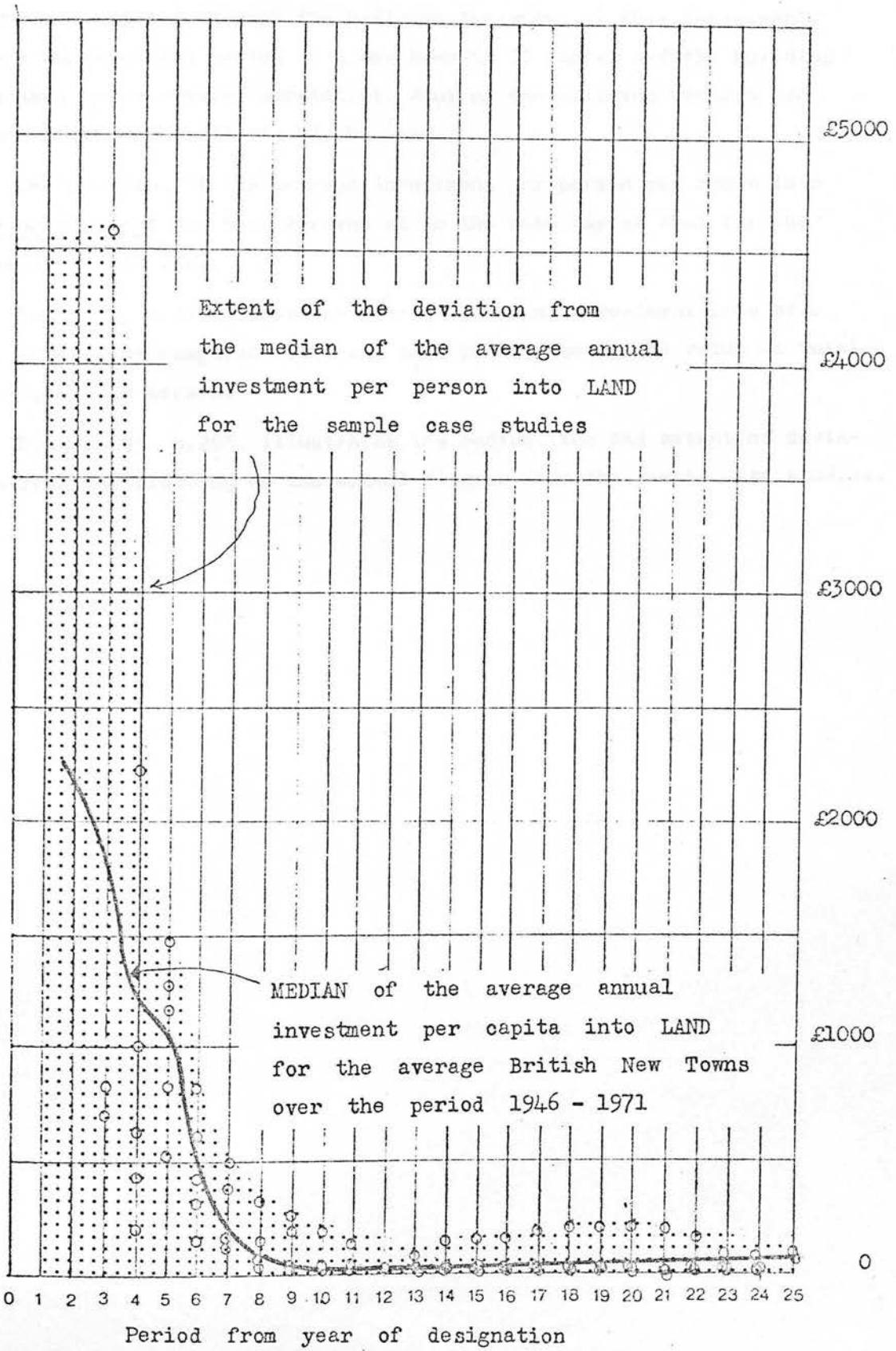
TABLE 33

LAND - COMPARISON OF ANNUAL INVESTMENT PER PERSON INTO LAND WITH TOTAL CAPITAL EXPENDITURE PER PERSON FROM YEAR OF DESIGNATION

From year of designation	Average Capital Investment per person per annum by Development Corporation (£)	Average % allocation of Capital Investment into land by Development Corporation (to nearest av. %)	Average Capital Investment per person per annum in land during the first 25 years of a British New Town (£)
2	4000	54	2150
3	3750	48	1800
4	3000	38	1150
5	2760	38	1050
6	2200	26	580
7	1740	12	210
8	1550	5	80
9	1380	2	30
10	1240	1.5	20
11	1170	1	10
12	1105	1	10
13	1080	1	10
14	1055	1	10
15	1000	1	10
16	1000	1	10
17	1000	1	10
18	1000	1.5	15
19	1000	2	20
20	1000	2.5	25
21	1000	3	30
22	1000	3.5	35
23	1000	4	40
24	970	4.5	45
25	945	5	50

DIAGRAM No. 92

LAND - MEDIAN OF THE ANNUAL INVESTMENT PER PERSON INTO LAND, SHOWING THE EXTENT OF THE DEVIATION FROM THE MEDIAN FOR THE SAMPLE CASE STUDIES



Information from the Annual Reports of the New Town Corporations

8. Sectorial Investment per Person

(ii) Site Development.

Apart from the essential engineering works for health, land drainage, the infra-structure, roads and other site development needs of the town, the capital invested into site development is significant because of the employment created through the building industry, by this investment. If the construction period of a new town is 25 years, and the building programme is reasonably consistent, many of the building workers can become permanent residents of the town.

The plotting of the average investment per person per annum into site development has been arrived at in the same way as that for the investment into land.

Table 34, p.294, shows the average value of investment into site development, as compared with, and as a percentage of the value of total investment per person.

Diagram 93, p.295, illustrates the median line and extent of deviation from the plotting of the actual figures from the sample case studies.

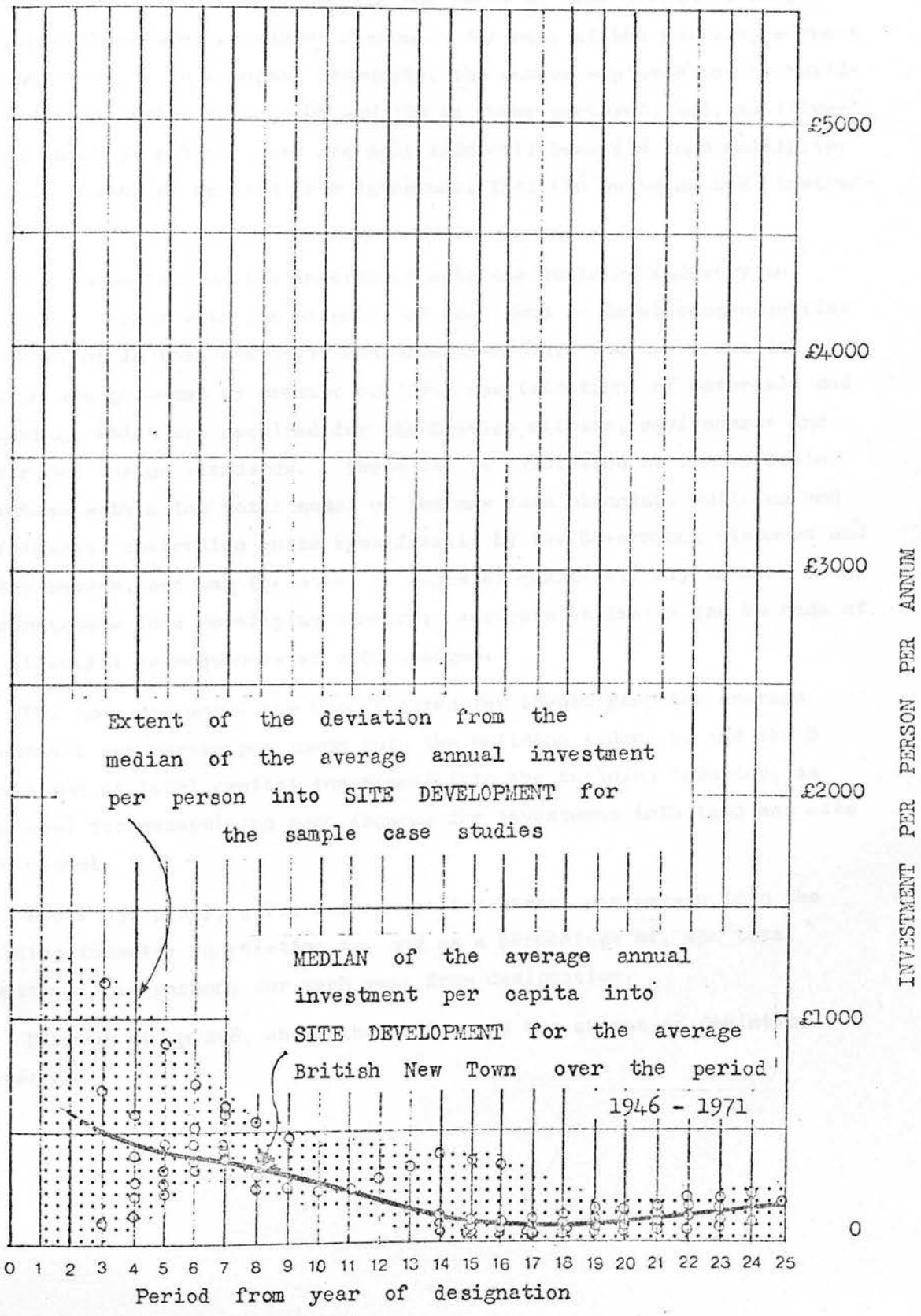
TABLE 34

SITE DEVELOPMENT - COMPARISON OF INVESTMENT PER PERSON ANNUALLY INTO SITE DEVELOPMENT WITH TOTAL ANNUAL CAPITAL EXPENDITURE PER PERSON FROM YEAR OF DESIGNATION

From date of designation	Average annual investment per person (total) (£)	Average percent of total allocated to Site Development (%)	Average annual investment per person into Site Development (£)
2	4000	15	600
3	3750	14	500
4	3000	15	450
5	2760	15	410
6	2200	18	400
7	1740	20	360
8	1550	21	330
9	1380	22	300
10	1240	19	240
11	1170	18	210
12	1105	15	170
13	1080	12	130
14	1055	9.5	100
15	1000	9	90
16	1000	8	80
17	1000	7	70
18	1000	7	70
19	1000	8	80
20	1000	9	90
21	1000	10	100
22	1000	11	110
23	1000	12	120
24	970	15	150
25	945	17	160

DIAGRAM No. 93

SITE DEVELOPMENT - MEDIAN OF THE ANNUAL INVESTMENT PER PERSON INTO SITE DEVELOPMENT, SHOWING THE EXTENT OF THE DEVIATION FROM THE MEDIAN



Information from the Annual Reports of the New Town Corporations

8. Sectorial Investment per Person

(iii) Building Industry.

As previously mentioned under section 8(ii), the building industry, if organized and correlated in an appropriate way with the new town corporation expenditure, could provide the basis of near permanent employment, and therefore, permanent residency for many of the building workers in a new town. In a normal community, the number employed in the building industry varies between 8% and 12% of those employed, and, as illustrated in Chapter 2.6, there are many trade-off benefits, and multiplier effects, which are derived from investment into the building and construction industry.

The comparison of the investment into the building industry in British new towns with the planning of new towns in developing countries is important in that the costs and investment into the new towns in Britain are governed by precise building specifications of materials and finishing, which are required for the British climate, environment and prescribed design standards. These can be considered as controllable variables within the total model of the new town planning, building and performance, controlled quite specifically by the Government planners and policy-makers, and can therefore be adjusted quantitatively to meet local circumstances in a developing country; accurate estimates can be made of the financial consequences of such changes.

The same procedure has been adopted for identifying the average investment per person per annum into the building industry, and the % allocation of total capital investment into the building industry, as that used for determining such figures for investment into land and site development.

Table 35, p.297, gives the annual investment per person into the building industry in relation to, and as a percentage of, the total investment per person, for each year from designation.

Diagram 94, p.298, shows the median and the extent of deviation therefrom.

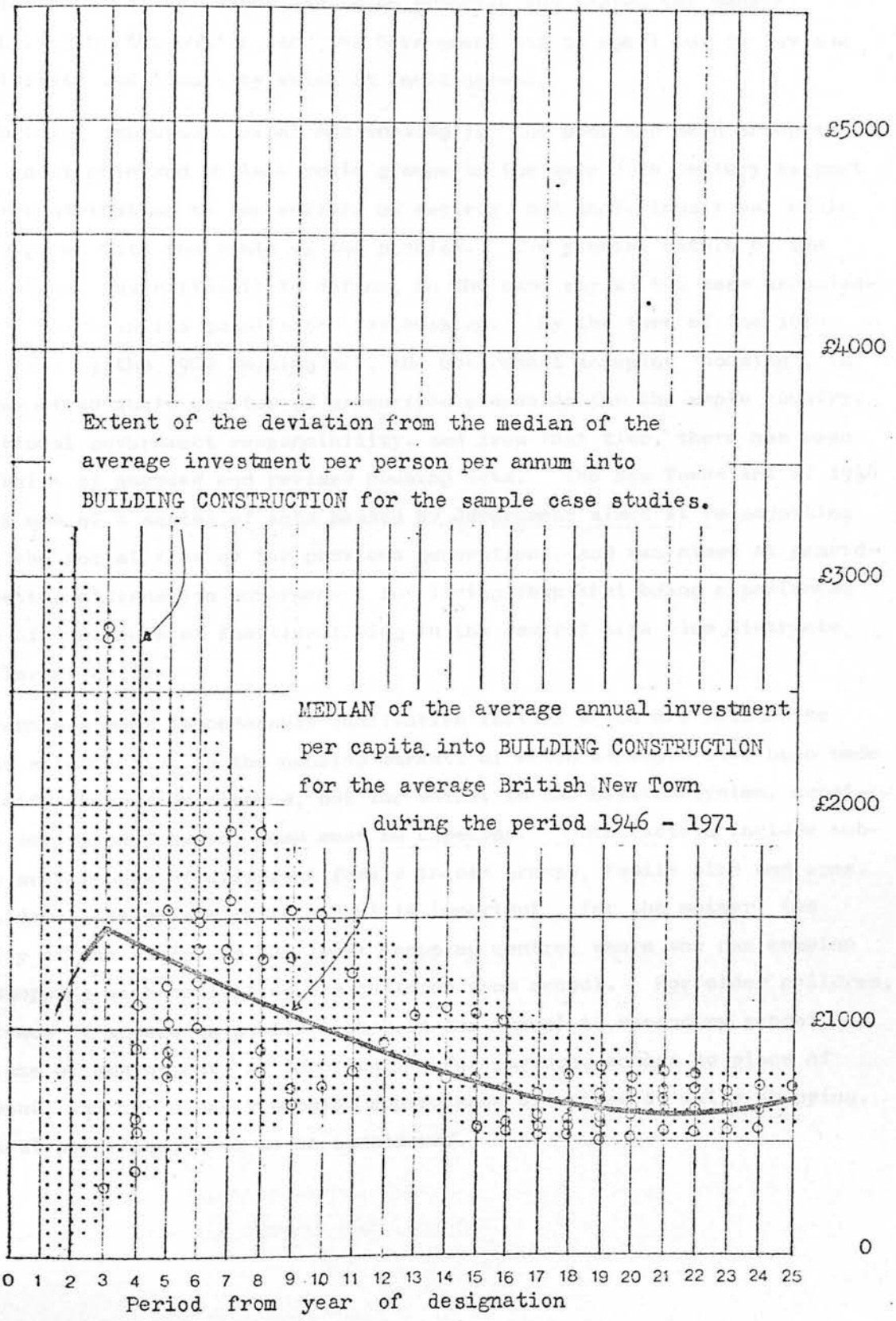
TABLE 35

COMPARISON OF ANNUAL INVESTMENT PER PERSON INTO BUILDING CONSTRUCTION WITH TOTAL CAPITAL EXPENDITURE FROM YEAR OF DESIGNATION

From year of designation	Annual investment per person total capital expenditure (£)	Average % of total allocated to Building Construction (%)	Average annual investment per person into Building Construction (£)
2	4000	31	1250
3	3750	39	1450
4	3000	47	1400
5	2760	47	1300
6	2200	56	1220
7	1740	67	1170
8	1550	71	1100
9	1380	76	1050
10	1240	80	990
11	1170	81	950
12	1105	81	900
13	1080	83	850
14	1055	77	820
15	1000	77	770
16	1000	72	720
17	1000	70	700
18	1000	65	650
19	1000	62	620
20	1000	62	620
21	1000	61	610
22	1000	61	610
23	1000	63	630
24	970	64	640
25	945	65	650

DIAGRAM No. 94

BUILDING CONSTRUCTION - MEDIAN OF THE ANNUAL INVESTMENT PER PERSON INTO BUILDING CONSTRUCTION, SHOWING THE EXTENT OF THE DEVIATION FROM THE MEDIAN



Information from the Annual reports of the New Town Corporations

9. Housing - Characteristics of Investment

The squalid conditions under which so many families lived in the urban areas and towns towards the end of the 19th century in Britain, brought with them the political acceptance by the Government of the need to take the problem seriously. However, before any action by Government was possible, realistic technical solutions had to be proposed and tested for general acceptability by the public, and the Government had to spell out in law the responsibility and liability which it could accept.

Providing improved shelter and housing for the poor had been accepted by some charitable and philanthropic groups in the late 19th century as part of their contribution to the welfare of society, but their impact was miniscule compared with the scale of the problem. The precise nature of the problem itself was difficult to define, in the same way as the term urbanization is evasive in its quantitative expression. By the turn of the 19th century, and by the 1909 Housing Act, the Government accepted 'housing', in the sense of adequate shelter of prescribed standards for the whole country, as a national government responsibility, and from that time, there has been a succession of amended and revised housing acts. The New Towns Act of 1946 was only one of a series of Acts passed by Government aimed at re-adjusting some of the social ills of the previous generations, and was aimed at providing a better alternative environment for living than that being experienced by tens of thousands of families living in the central area slum districts of the larger cities.

There are many imponderable qualitative factors which are related to consumer satisfaction in the housing market, of which attempts have been made to quantify their significance, but for which, in the British system, considerable deviation from any mean must be expected. Such factors include subjective preferences of different family income groups, family size and ages. For children, the proximity to school is important; for the mother, the proximity of the school to the local shopping centre, where she can combine daily shopping with collecting the children from school. For older children, convenience of access to public transport for travel to secondary school, or to a place of employment, is important. For parents, access to place of employment, and for elderly people, convenience of access to daily shopping, and social amenities, have to be considered.

Families can and do adapt to many variables in a local environment, even though they may not be in a state of comfort, but there are 'standards' of housing environment, (including amortization capacity and amortization charges), within which the great majority of the British people would declare themselves to be satisfied. It was on these criteria that Tudor Walters based his housing report in 1918, (88) Dudley in 1944, (89) and Parker Morris in 1956. (90) The actual space, layout, utilities, facilities, for house design in Britain have been generally developed and adopted around the standards recommended in these reports.

The growth of a new town is regulated by the rate at which housing can be made ready for occupation, and to a large measure, the success of a new town is dependent upon the satisfaction the occupants derive from both their accommodation, their employment, and their family income. From a management and accounting point of view, it is not particularly relevant whether a resident family is employed within the jurisdictional area of the town boundary, or whether the wage earner of the family has an occupation in another town or district. But, from the point of view of the new towns policy, i.e., self-contained new towns, then it is in the interest of the families and the new town authority, that the occupants of the houses should have employment within easy and convenient access of their homes in the new town itself. This would also provide a more accurate basis for monitoring any multiplier effects on employment throughout the town. At present, there is insufficient information to identify the factor of self-containment among British new towns. Random samples do not give a reliable indication, e.g. in the sample case study of EastKilbride the Corporation estimates that approximately 50% of the residents travel to Glasgow for employment, whilst an equivalent number travel out daily from Glasgow to their jobs in East Kilbride.

Table 36, p. 302, gives the average investment per person into housing for the British new towns, from year of designation. These figures were derived from the median line of all the information from the sample case studies, as plotted on Diagram 95 , p. 303, which gives an indication of the extent of deviation from the mean.

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(88) Report of the Committee on Questions of Building Construction in connection with the provision of dwellings for the working classes. Cmd. 9191, HMSO, 1918.

(89) The Design of Dwellings, HMSO, 1944.

(90) Homes for Today and Tomorrow, HMSO, 1961.

The average investment per person into housing for the British new towns has been £950 from the third year, diminishing to £500 by the 12th year; (the gradual increase to £550 by the 23rd year can be interpreted to be the general increase in costs).

Table 37, p.304, shows the average cost per house, (i.e. exclusive of any other costs involved, such as the cost of land, drainage, road works, pathways, etc.), for the new towns in Decades 40, 50 and 60. The cost per dwelling, as analysed from the official figures, during the first 10 years of the construction of the new town, are, in some instances, grossly distorted. The average net cost of a house for Decade 50 example, Cumbernauld, for the period 8 to 16 years from designation, was £2,760, and the average cost for Decade 40 new towns, i.e. those which had been in existence from 14 to 25 years, was £1827 per unit.

Table 38, p.305, gives a comparison of the number of houses constructed, families housed, housing subsidies paid to new town development corporations, for a selected year from designation.

Table 39, p.306, gives some selected examples from the years 1963 and 1971, of the investment into housing as a percentage of the total investment by the Corporation for that year.

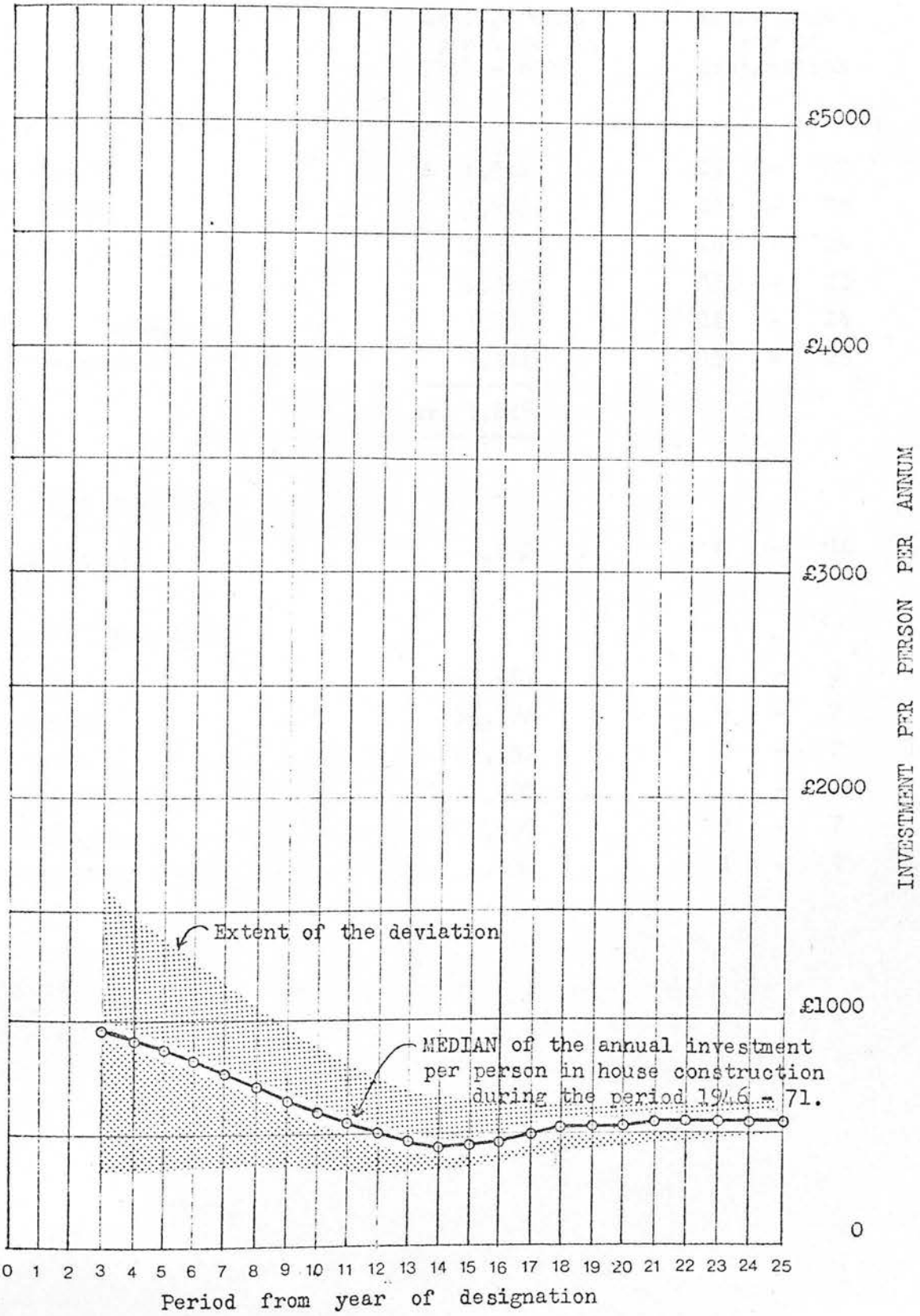
TABLE 36

AVERAGE INVESTMENT PER PERSON INTO HOUSING
FROM YEAR OF DESIGNATION

Year from Designation	£ per person
3	950
4	900
5	825
6	775
7	700
8	650
9	600
10	560
11	530
12	500
13	498
14	495
15	495
16	498
17	500
18	510
19	520
20	530
21	540
22	545
23	550
24	550
25	550

DIAGRAM No. 95

HOUSING - MEDIAN OF THE ANNUAL INVESTMENT PER PERSON INTO HOUSING, SHOWING THE EXTENT OF THE DEVIATION FROM THE MEDIAN



Data obtained from an analysis of the information contained in the Annual Reports of the New Town Corporations

TABLE 37

AVERAGE COST PER HOUSE OVER PERIOD 1963-71
FOR SAMPLE CASE STUDIES

		Average cost per house 1963 - 1971	Years from date of designation
Decade '40' New Towns			
2	Bracknell	£ 1,716	14 - 22
7	Stevenage	1,881	17 - 25
13	Newton Aycliffe	1,753	16 - 24
14	Peterlee	1,873	15 - 23
22	East Kilbride	1,818	16 - 24
23	Glenrothes	1,924	15 - 23
		Av. 1,827	
Decade '50' New Town			
21	Cumbernauld	2,760	8 - 16
Decade '60' New Towns			
12	Telford	13,981	0 - 8
15	Redditch	56,172	0 - 7
16	Runcorn	61,152	0 - 7
17	Skelmersdale	3,898	2 - 10
18	Washington	2,439	0 - 7
24	Livingston	4,438	1 - 9

TABLE 38

COMPARISONS OF HOUSES CONSTRUCTED, FAMILIES HOUSED, AND HOUSING SUBSIDIES PAID TO NEW TOWN DEVELOPMENT CORPORATIONS OF THE SAMPLE CASE STUDIES OVER SAMPLE PERIOD
1963 - 71

New Towns	No. of houses con-structed	Popula-tion housed	Average pers./ house	Housing Subsidy £,000	Av. sub-sidy per house £	Av. sub-sidy per person £	Year from date of design-ation
Decade '40'							
2 Bracknell	11,151	33,000	2.96	465	42	14.2	22
7 Stevenage	20,461	61,000	2.96	817	40	13.4	25
13 Newton Aycliffe	6,410	23,528	3.7	269	42	11.4	24
14 Peterlee	7,197	24,348	3.4	336	47	13.8	23
22 East Kilbride	18,176	65,225	3.6	1307	72	20.0	24
23 Glenrothes	7,924	28,361	3.56	503	64	18.0	23
Decade '50'							
21 Cumbernauld	8, 953	30,780	3.44	906	101	30.3	16
Decade '60'							
12 Telford	3,838	19,000	4.95	392	103	20.9	8
16 Runcorn	2,358	9,806	4.15	446	189	45.0	7
17 Skelmersdale	5,914	17,750	3.00	545	92	30.8	10
18 Washington	1,683	6,000	3.56	297	176	49.5	7
24 Livingston	4,586	12,000	2.61	667	146	56.0	9

For case study Redditch (no. 15), the statistical returns for Redditch are not clear, in that housing was provided mostly by a local authority, and little was provided by the Corporation; the figures are not compatible.

TABLE 39

SELECTED EXAMPLES OF INVESTMENT PER PERSON
INTO HOUSING
FOR YEARS 1963-71

		Housing as a % of capital investment			
		1963 %	years from date of designation	1971 %	years from date of designation
Decade '40' New Towns					
2	Bracknell	52.34	14	47.75	22
7	Stevenage	58.54	17	59.58	25
13	Newton Aycliffe	76.97	16	77.95	24
14	Peterlee	69.55	15	66.72	23
22	East Kilbride	61.90	16	52.20	24
23	Glenrothes	68.52	15	63.03	23
Decade '50' New Town					
21	Cumbernauld	60.50	8	57.04	16
Decade '60' New Towns					
12	Telford	-	-	31.45	8
15	Redditch	-	-	28.87	7
16	Runcorn	-	-	44.35	7
17	Skelmersdale	-	-	42.62	10
18	Washington	-	-	41.40	7
24	Livingston	-	-	57.40	9

10. Synthesing the information for British New Towns over a twenty-five year period to determine average per capita outlay by a Corporation

As there was only one new town of the selected sample case studies which had twenty-five years experience, i.e., Stevenage, it was not feasible to accept the averages for Stevenage as representative of the average performance of the other new towns.

Without mounting a large scale survey of the new towns, which would require resources and support far beyond that which was available to the candidate, the indicators which have been selected are those which are available and can be extracted from published sources, most of which were the official documents relating to new towns; the items have been chosen for their relevance in examining new towns in the total environment of the developing countries.

Table 40, p. 310, tabulates the annual characteristics of the British new towns average performance over the first 25 years, excluding repayment characteristics,(91) under the following headings:-

(a) the total average annual investment per person, in the ratios allocated to
  (i) land
  (ii) site development
  (iii) building construction
(b) cumulative annual capital investment by the corporation
(c) cumulative annual increase in population
(d) estimated number of jobs created in the industrial or manufacturing occupational sector.

Diagram 96, p.311, illustrates this information graphically.

As a guide to the achievement on the experience of the past twenty-five years, the average new town in Britain can be expected to reach a population of 44,000 persons, using a capital investment borrowed from the Consolidated Fund of the Treasury to the value of £42 million. £34.5 million, in interest and capital, had been repaid to the Exchequer at the end of this period.

(91) From the evidence available, it is assumed that the repayments made by the Corporations, on an average for the whole programme, and with the Capital Deficiency grants, are only meeting the interest payments on the capital, and only 4% payment against the capital advances, after 25 years.

At the rate of industrial investment, which has been taking place, one could expect 11,500 jobs to have been created in the industrial sector. The level of population employed ranges from 26% to 61% (though averaging 41%of total population being employed); approximately 64% of the work force in these new towns is employed in the industrial sector.

The significance of this analysis is to compare it with the very earliest estimates contained in the Explanatory and Financial Memorandum of the New Towns Bill in 1946 - and the expectations of costs per person of contemporary new towns, as indicated by Mr F. Schaffer:-

"The first estimates in 1946 put the cost of a town of 50,000 people at £19 million, of which it was thought £15 million would be borne by the development corporation and £4 million by the local authorities; but this was very quickly recognized to be a serious underestimate..... Since then, building costs have more than trebled, land is more expensive to buy, and salaries and other overheads have gone up. By 1970, the figure was probably in the region of £4,000 per person, or £250 million for a town of 50,000 people."(92)

In fact, after 25 years, though the average cost per person is conceded to be £4,000, this average figure applies only to the second year from designation, when the cost per person related to the value of capital loan (excluding the interest payments) began to diminish, as shown in Table 40, p.310, to £945 per person by the 25th year.

This summary of averages can be tested against the three case examples of new towns which have been in existence for 24 or 25 years, using the value of capital advances only, as shown in Table 41, p312.:-

Stevenage, after 25 years, cost/person

$$\frac{£63,190,000}{68,000} = £930$$

Newton Aycliffe, after 24 years, cost/person

$$\frac{£16,171,000}{23,588} = £680$$

East Kilbride, after 24 years, cost/person

$$\frac{£66,960,000}{67,625} = £990$$

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(92) op. cit., p.202

The estimate of the cost per person of £945 is exclusive of other central and local government investments, such as the investment per person into school buildings, although these figures are common both to the building of new towns, and the restructuring of old towns. Because of the high cost of land and property in the old towns, the unit cost per person for a school place is very likely to be higher than in the new town.

Statutory undertakers, which provide gas, electricity, telephones, transport services, are managed in such a way as to meet their own costs, and are re-imbursed through the services provided. These costs and investments are common to both new towns and old towns, and are accounted for as self-financing services.

The question of repayment of capital and interest, and whether a new town imposes an additional burden to the economy as a whole will be examined in Part IV, Chapter 11, of this thesis, i.e. the relevance of the British New Towns to the urbanization problem of developing countries.

Table 40

SOME FINANCIAL CHARACTERISTICS OF THE AVERAGE BRITISH NEW TOWN DURING THE PERIOD 1946-71.

From year of Designation	Corp. Capital Invest./ person per annum	Corp. Investment per person per annum (inclusive of administrative costs and overheads.)							Population Cumulative Increase (Diag. 87.)	Corp. Invest. Cum. Increase (Diag. 91.) £,000
		Land (£)	% of Total	Site Devel. (£)	% of Tot.	Bldg. Const. (£)	% of Tot.	Capital used for other purposes £		
2	£4,000	2,150	54	600	15	1,250	31			1,000
3	3,750	1,800	48	500	14	1,450	39		1,000	2,500
4	3,000	1,150	38	450	15	1,400	47		2,500	5,000
5	2,760	1,050	38	410	15	1,300	47		4,000	10,000
6	2,200	580	26	400	18	1,220	56		5,700	11,250
7	1,740	210	12	360	20	1,170	67		7,500	12,500
8	1,500	80	5	330	21	1,100	71		9,000	13,750
9	1,380	30	2	300	22	1,050	76		10,500	15,000
10	1,240	20	1.5	240	19	990	80		12,500	16,000
11	1,170	10	1	210	18	950	81		13,700	17,000
12	1,105	10	1	170	15	900	81	25	15,800	18,000
13	1,080	10	1	130	12	850	83	90	17,500	19,000
14	1,055	10	1	100	9.5	820	77	125	19,000	20,000
15	1,000	10	1	90	9	770	77	130	21,000	21,700
16	1,000	10	1	80	8	720	72	190	22,700	23,300
17	1,000	10	1	70	7	700	70	220	25,000	25,000
18	1,000	15	1.5	70	7	650	65	275	27,500	27,500
19	1,000	20	2	80	8	620	62	280	29,000	30,000
20	1,000	25	2.5	90	9	620	62	265	31,500	32,500
21	1,000	30	3	100	10	610	61	260	34,000	35,000
22	1,000	35	3.5	110	11	610	61	245	36,000	37,500
23	1,000	40	4	120	12	630	63	210	39,000	40,000
24	970	45	4.5	150	15	640	64	135	42,500	41,500
25	945	50	5	160	17	650	65	85	44,000	42,500

DIAGRAM No. 96

SYNTHESIS OF THE AVERAGE ANNUAL INVESTMENT PER PERSON CHARACTERISTICS OF THE BRITISH NEW TOWNS, IN RELATION TO THE CUMULATIVE INCREASE OF POPULATION, CAPITAL ADVANCES, AND JOBS CREATED DURING THE PERIOD 1946 - 71

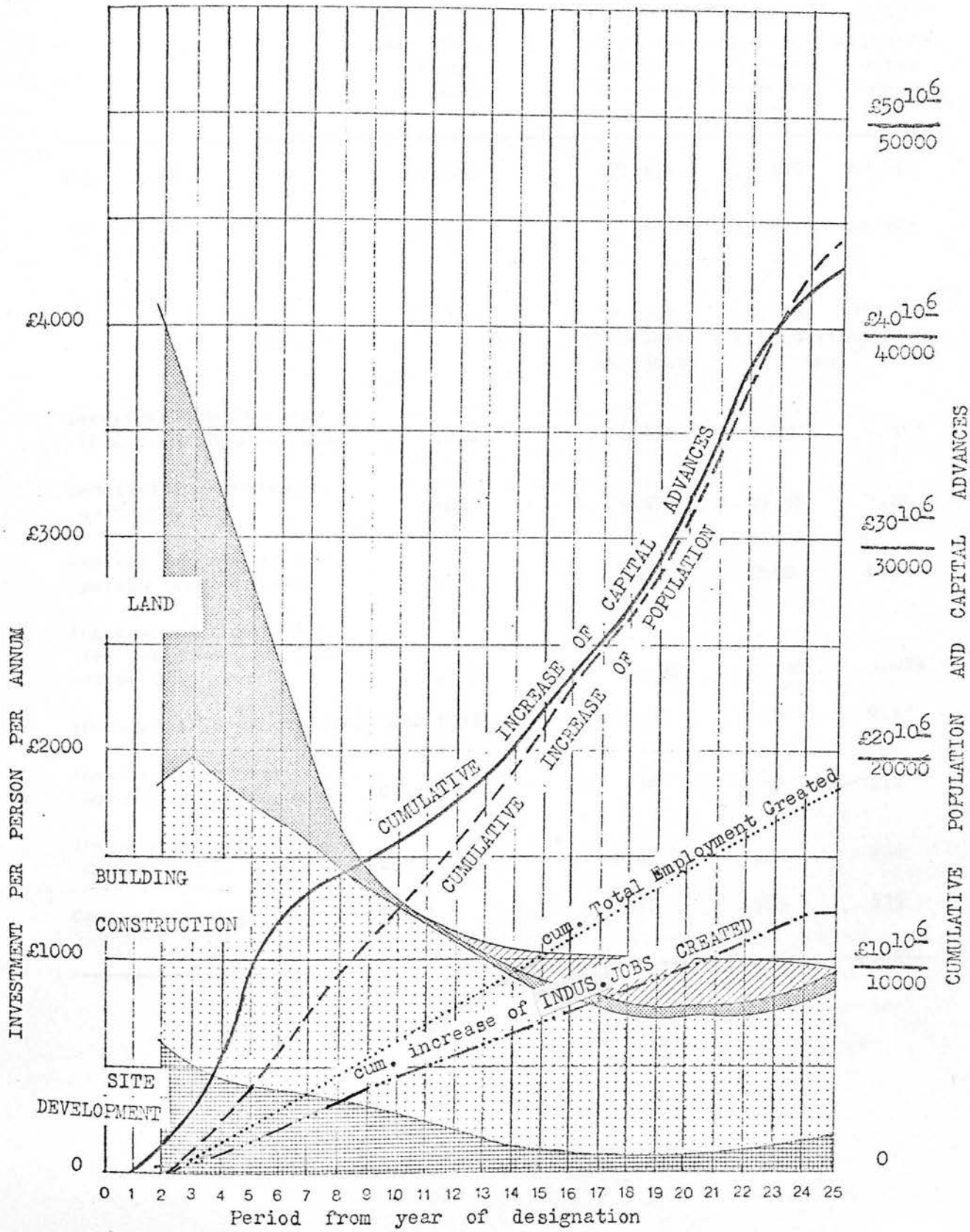

TABLE 41

COMPARISON OF AVERAGE BRITISH NEW TOWNS PERFORMANCE MODEL AFTER 25 YEARS WITH ACTUAL DATA FOR THREE NEW TOWNS OF 25 AND 24 YEARS EXPERIENCE

	Average Performance of British new towns after 25 years	Actual data for		
		Stevenage after 25 years (7)	Newton Aycliffe after 24 years (13)	East Kilbride after 24 years (22)
Population	44,000	68,000	23,588	67,625
Capital Investment (£,000)	42,000	63,190	16,171	66,960
Jobs created in the industrial sector	11,500	32,000 (includes all jobs)	9,005 (industrial sector only)	14,782
Investment in Industry (£,000) @ £360 per job	4,250	6,453	6,000	4,817
Industrial Investment as % of total	10%	9.4%	37.5%	7.2%
Capital Investment per person (Corporation)	£945	£930	£680	£990
Increase of population for previous year i.e. after 24th year	4.96%	6.03%	3.95%	3.07%
Investment in land/person	£28 (3%)	41.97	22	9.17
Investment in Site Development per person	£142 (15%)	175	99	212
Investment in Building Const. per person	£690 (73%)	788	522	664
Cost of House per person	£550	617	535	535

CHAPTER 9. INFORMATION SYSTEM FOR MEASURING NEW TOWNS PERFORMANCE

1. Adequacy of the Present Information Reporting System

At present, the information provided by the annual reports of the New Town Corporations, (and by selected samples and case studies), does not give any indication of the annual value of product added, or the value of output, of each new town. With few exceptions, the total number of persons employed in the various occupational sectors of the new town, along with those resident in the new town, is not recorded. Now that the Value Added Tax system has been introduced into Britain, the value of product added in every process in every location is being monitored by a Government Department - the opportunity is there to arrange the monitoring system in such a way that the value of product added in the jurisdictional area of a new town, (without breaching any privileges of privacy), could give some indicators on this vital aspect of town performance.

As the analysis of investment into industry and jobs created (shown in Table 31) reveals, only two corporations of the 13 case studies publish a record of the total number of persons employed in the town; both Stevenage and Bracknell indicate 47% of total population employed, whilst the remainder publish figures which, though pertaining to selected criteria, are nevertheless inconsistent with each other.

The total number of jobs created in the case study of new towns, if measured for all occupational sectors throughout the town, (rather than in the industrial zone only), would be considerably more than the number shown by the returns; the percentage of total new town population employed could be higher than 41%, as indicated on Table 31, p.280. The value of family incomes and their spending power, and the multiplier benefits on employment which often result from this, could be a great deal more than can be calculated at present. The total number of persons deriving employment from the investment could be expected to be more, and the investment per person per job would be less.

The figures from Tables 31 and 32 identify the percentage of total investment allocated to industrial development, but it is not possible to obtain an accurate indicaton of the correlation with either the percentage of total population employed, or obtain a valid figure for the investment per job created, for the town as a whole.

If available, this information could be correlated with the value of production from each occupational sector, as it will be revealed locationally under the new "value added tax" trade classification system,(94) and valuable indicators for future "new town" planning could be obtained.

Some information on the income levels of all the inhabitants of the new town are recorded in the files of the housing department of the Corporation, and could be statistically analysed without causing a breach of privacy, but it is rarely tabulated, nor made available in any form, for planning purposes.

The capital expenditure on education buildings, and the current expenditure on educational staff, equipment and maintenance are certainly known by the county education officer, but are rarely made available to the new town corporation planning officers.

The limited information provided by, and published for, new town corporations at present is expressed diagrammatically in Diagram 97, p.315. Whether a new town, or an existing traditional town, both are centres of output and contribute to the formation of national wealth, though at present, national accounts do not publish the value of output and production on a "town by town" basis, except for a chance sample survey, such as that obtained for East Kilbride in 1966.

The essential difference between the traditional, and new, town is the financial basis on which the fixed assets (i.e. the houses, roads, industrial, commercial and social buildings) are, or have been, financed and constructed. The new towns are financed from a loan from the Government's consolidated fund; the infra-structure, dwellings and the total physical environment is planned, and built, as quickly as possible on a controlled programme of expenditure, unlike the cumulative unco-ordinated investment of the older towns.

One of the Government's intentions in planning and constructing these new towns was to provide a reasonable standard of living for all the inhabitants,(95) which would be valid for several generations, and give an opportunity for a new generation of young people to benefit, in contrast with the poor environmental quality which existed in so many of the Victorian industrial cities. This is being achieved. However, the process (and components) of growth of a town is the same for both new and old; both contribute to national wealth in their own way, in varying proportions, but with different constraints and problems.

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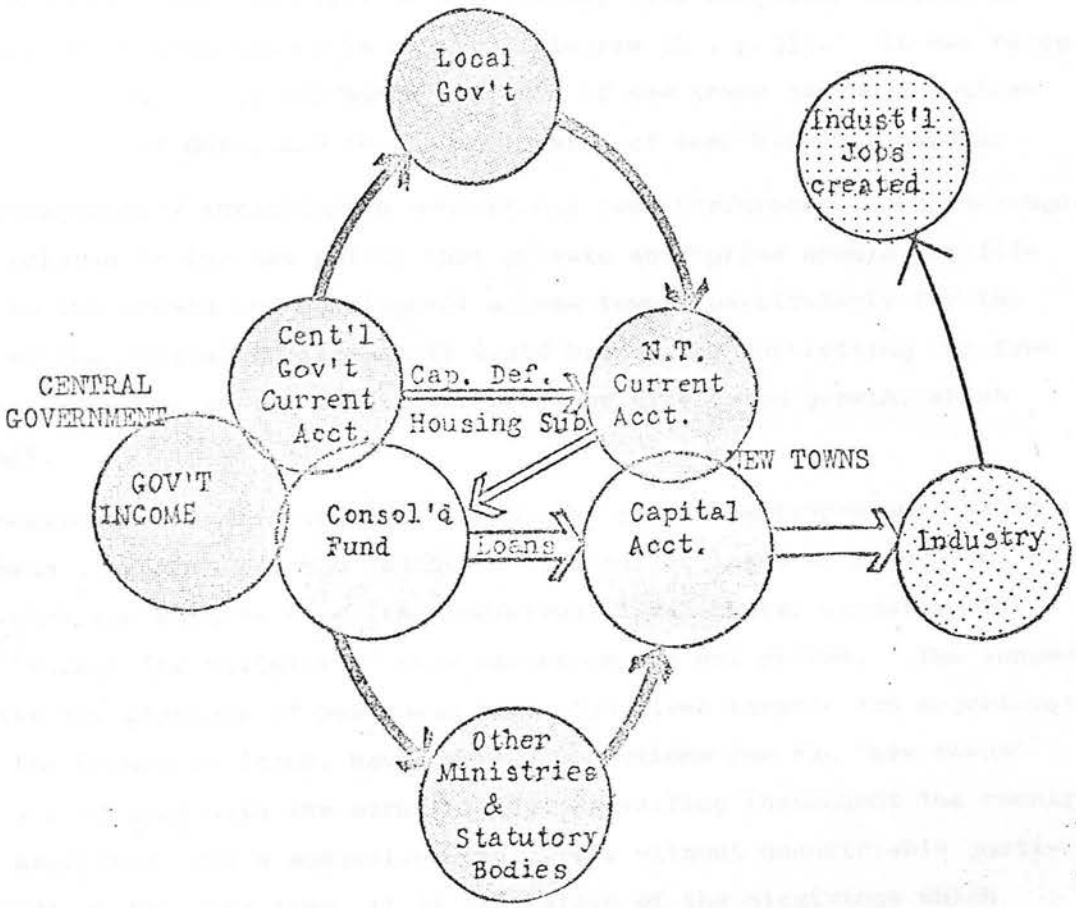
(94) op. cit., Chapter 8, section 6.

(95) The basic standards for planning, design and environment in the new towns were contained in the Final Report to the New Towns Committee, of which Lord Reith was Chairman; Cmd. 6876, HMSO 1946.

DIAGRAM No. 97

DIAGRAMMATIC REPRESENTATION OF THE INFORMATION PUBLISHED OFFICIALLY BY THE NEW TOWN CORPORATIONS AND THE NATIONAL ACCOUNTS PERTAINING TO NEW TOWNS



From a town planner's point of view, particularly for a planner concerned with planning new towns in developing countries, information on the extent to which the value of investment into fixed assets, (and into the industrial sector), actually generates real wealth, (which can be registered annually as a contribution to national wealth), is of importance for both local planning and national policy making.

In very recent years (1971), the Department of Environment began experimenting with a new system of management accounting with new towns; Milton Keynes was selected for the experiment. The exact procedure which will be adopted finally for monitoring the performance of new town, the way in which the information on the "cash flow" throughout the town is to be analysed, and used as a planning tool, is still being studied; the schematic outline of the proposal for Milton Keynes is shown in Diagram 98 , p.317. It was recognised, however, that the performance criteria of new towns had been noticeably lacking to this date, and that a new system of some kind was needed.

The Government's intention to monitor new town performance more thoroughly may be related to the new policy that private enterprise should participate more in the growth and development of new towns, particularly for the injection of the capital investment it would bring, and for letting the free market begin to exercise the multiplier or other effects on growth, which could result.

The challenge has already been laid by the private entrepreneurs, that the new towns have been planned and built with public loans at standards and criteria which the country (i.e. the individual inhabitants) cannot really afford,[96] though the validity of this assertion was not proven. The suggestion is that the planners of new towns have been given targets and objectives, and, with the Exchequer loans, have provided solutions for the 'new towns' which are out of step with the market forces prevailing throughout the country. It was an assertion, and a suggestion, which was without quantifiable justification, but at the same time, it is indicative of the misgivings which policy-makers in developing countries could have because of the absence of proven quantitative analysis of the performance of new towns.

Exactly what form the new system of management accounting will take for the new towns is still being studied by the Ministry of the Environment, but it is generally agreed that when it is established, it should be regarded as

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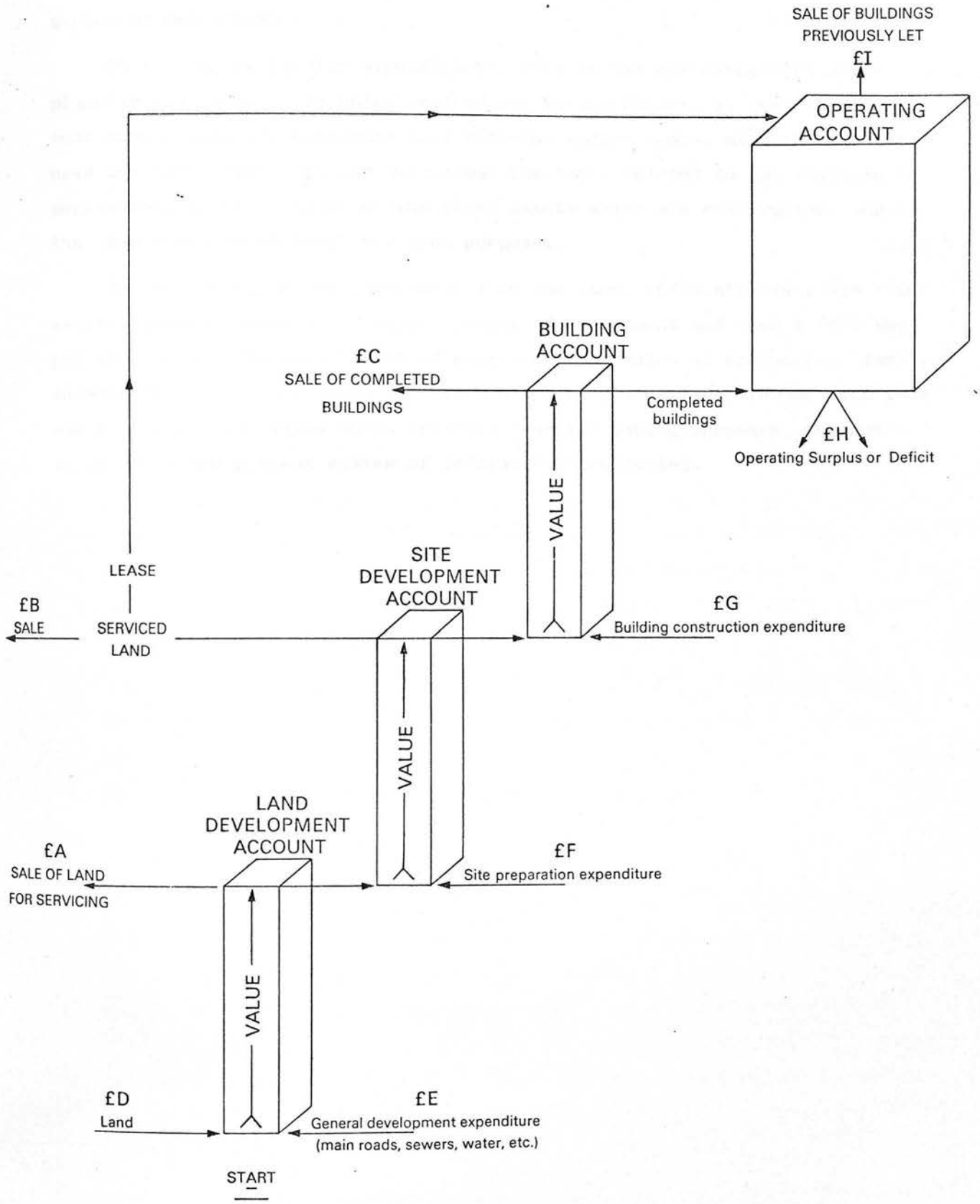
(96) O.A.P., July 1971, p.511.

DIAGRAM No. 98

MANAGEMENT ACCOUNTING SYSTEM



Cash flow consists of $\overbrace{£A+B+C+I}^{\text{OUTPUTS}} - \overbrace{D-E-F-G \pm H}^{\text{Inputs}}$

an aid to more efficient total management, i.e. as a tool for management and 'integrated' planning, rather than setting criteria for measuring the success or failure of any one new town within some narrowly predetermined system of measurement.

What is of particular significance, even in the new management and planning system which is being evolved for Milton Keynes, is that the management consultants are concerned only with the annual amount of Exchequer loan used for investment into and throughout the town, related to the increase of population, and the extent of the fixed assets which are constructed, and the land which is acquired for that purpose.

The way in which the investment into the land, infra-structure and fixed assets, combined with the flexible assets of investment and credit from the private sector, the combination of employment and value of production, family incomes and budget spending, the value added to the national income each year, and the increasing taxes which are collected for public purposes, are not included in the present system of information monitoring.

2. Concept of a Model for Monitoring, and Measuring, New Town Performance

The debate and speculation on the cost-benefit of new towns in Britain has been continuous since the 1946 New Towns Act. There are many different estimates of just what a 'new town' costs the country. New towns do not receive grants in the same way as other town corporations receive the Rate Support Grant, although the Deficiency Grant is paid in Scotland for a new town corporation, but is low compared with the R.S.G. paid to the older, congested, and larger cities. In 1972-3, the R.S.G. for Edinburgh averaged approximately £20 per head, compared with £8 per head for the Deficiency Grant for the new town of Cumbernauld; this is paid under the New Towns Act (Scotland) in respect of the interest on the accumulated Revenue Account deficiency.

What can be taken into account in the new towns is the high proportion of jobs created in the industrial (or manufacturing) sector of the occupational structure of the town, (on average, over 60% of total employed), and whether new towns provide a higher per capita value of production compared with the value of product per capita in many of the larger and older cities. The quality of life for all the inhabitants in a new town is often significantly higher, on average, than is to be found in many of the larger and older industrial towns and cities.

Until some adequate method, or model, is devised for measuring the interaction of each of the components, and for monitoring the information in a relatively simple and empirical way, speculation on the real value and contribution which the British new towns are making towards the national wealth and income will continue.

The information base, on which new towns are currently assessed, (as illustrated in Diagram 97), can be extended with the present administrative capability already available in new town corporations, to include (i) the total employment by occupational sectors, according to the V.A.T. system,[97] (ii) levels of family income, from which an indication of income tax and rates can be estimated,[98] and (iii) investment from other Ministries, Departments and the private sector, as schematically outlined

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(97) See pp.420-2 of this thesis for the V.A.T. trade classification of occupational sectors.

(98) Family Budget Surveys, Department of Employment, HMSO, periodical, p.415.

in Diagram 99 , p.321. Eventually, this could be extended to embrace value of output and production, if the information being monitored for the V.A.T. system were made available to planning research institutions, which could monitor town performance, as shown in Diagram No. 100, p.322. In the context of national accounting, there is no difference between the new towns and the old traditional towns, in the basic information which is required to measure the in-puts into the system by which the town functions; this is assuming that a town is defined by its jurisdictional area.

The process of monitoring national accounts is well organized, and summaries of the results are available to the whole country.(99) In view of the fact that 80% of the population of the country is living in towns and urban centres, it is argued that the town planner and the local government officials, who are concerned with the planning of their towns or districts, should be able to relate the measurement of the performance of their town, as defined by its jurisdictional area at the local level, with the system which has evolved over the centuries for measuring performance of the country as a whole, at national level; the national accounts for 'value of product added' by the urban areas being, for the most part, the summation of 'value of product added' at the local level.

What is important to determine from the central-local government partnership, and the joint exercise on public expenditure, is the actual result in terms of value added by additional infra-structure, houses, other buildings and amenities and how many additional people are provided with employment, and to what extent there will be an improvement in the living environment and quality of life in any community, or town, after such expenditure. Even this information, in itself, is not sufficient. The local planners are also interested in the extent to which such expenditure expands the activity and the economy locally, especially to stimulate private initiative and enterprize, to expand output, and provide the structure for expanding the flow of money locally. This expansion of local monetary flow is also the source of the taxes which contribute more to the continuous improvement of the local community, and make it less dependent upon grants from central government.

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(99) National Income and Expenditure, C.S.O., HMSO, (annual)
Annual Abstract of Statistics, C.S.O., HMSO, (annual)

DIAGRAM No. 99

DIAGRAMMATIC REPRESENTATION OF HOW THE EXISTING INFORMATION REPORTING SYSTEM CAN BE EXTENDED TO INCLUDE A RECORD OF THE TOTAL NUMBER OF JOBS CREATED, FAMILY INCOMES, AND PRIVATE INVESTMENT INTO THE NEW TOWN AS A WHOLE

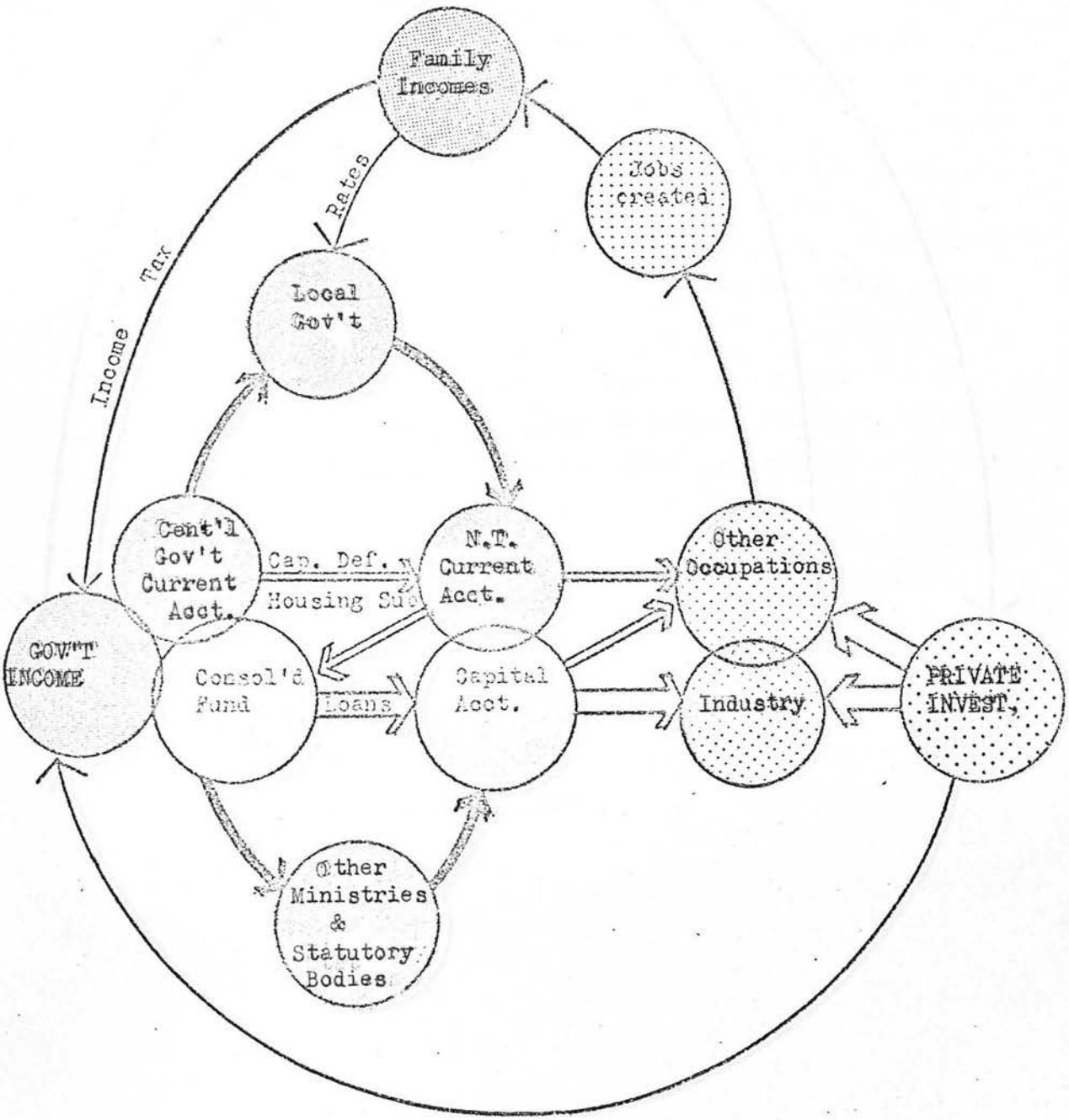
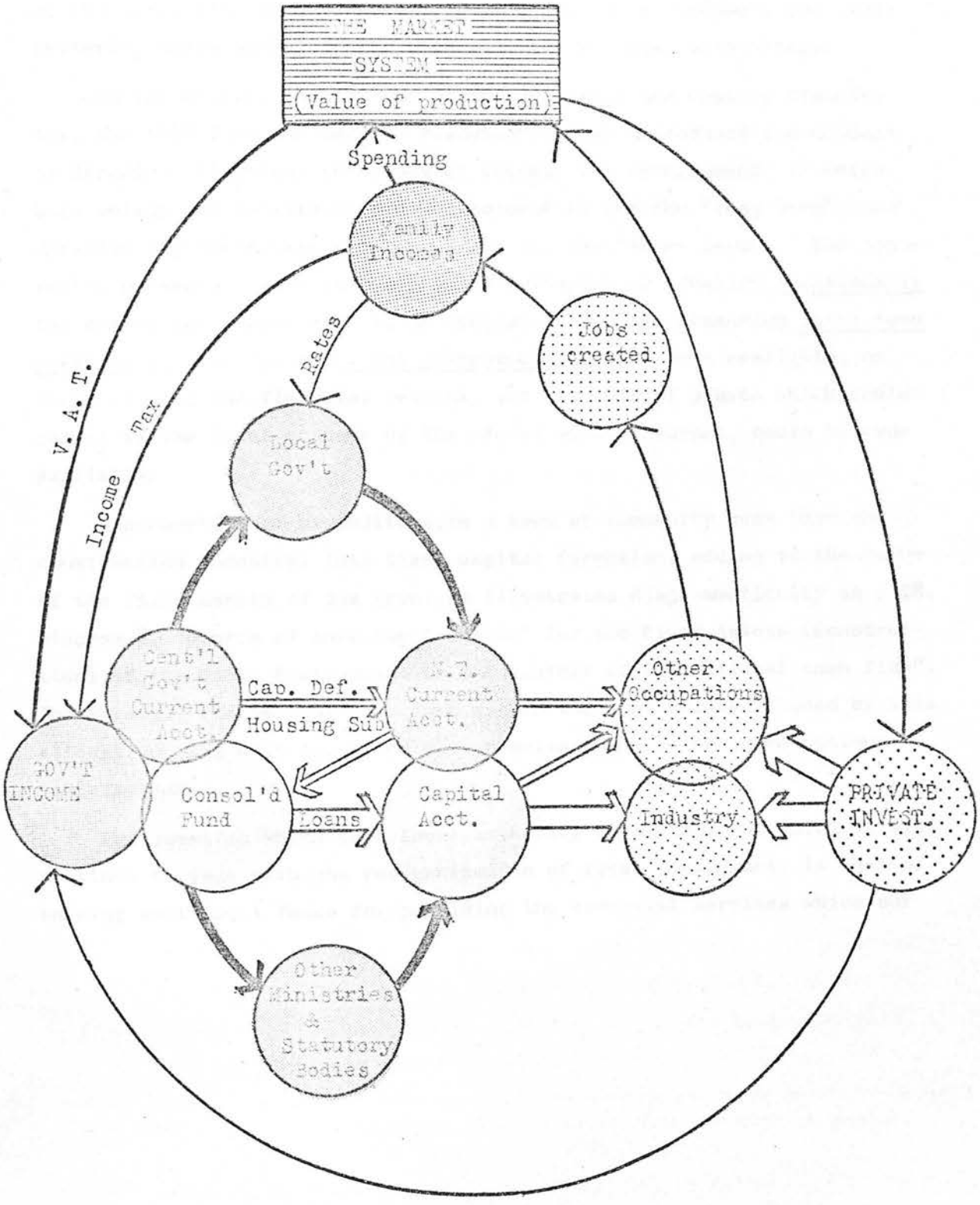


DIAGRAM No. 100

FURTHER EXTENSION OF THE INFORMATION REPORTING SYSTEM TO INCLUDE MONITORING THE FINANCIAL PERFORMANCE OF A NEW TOWN AS A COMBINED CORPORATE - PRIVATE ENTERPRIZE



Each district, or community, is obviously at a different level of performance, with different resources available to it. The historical review of the urbanization process of Britain indicates that the Central Government has accepted an obligation to ensure that no local authority is deprived of the means of providing the accepted standards of living of the time, and, on the basis of population, area, incomes, and other criteria, makes annual grants available to the local authorities.

On the earlier foundations of the 1947 Town and Country Planning Act, the 1968 Town and Country Planning Act has introduced the concept of Structure Planning, (or plans of intent) for development, in which bold policy for investment and development is for the "long term", and detailed implementation programmes are for the "short term". The opportunity presents itself for each local authority to identify locationally the demand for resources; if an adequate model for measuring total town performance, (as against local government budget), were available, an indication of the financial returns, and the rate of growth which could result to the local economy by the use of such resources, could be made available.

A proportion of expenditure in a town or community goes into the construction industry, into fixed capital formation, adding to the value of the fixed assets of the town, as illustrated diagrammatically on p.58, Diagram 8, "Source of investment capital for the Fixed Assets (Construction) of the Built Environment in the context of the national cash flow". The Physical Planners have to work within the constraints imposed by this allocation, and only too often with results which do not give optimum satisfaction.

The question which each local authority is facing, and which it will continue to face with the reorganization of local government, is that of raising additional funds for providing the essential services which our

modern society requires. Can the occupational sector of a town expand the value of its output, increase its turnover, trade and marketing transactions, sufficiently to pay more taxes? If an additional demand for rates and income tax payments is made upon the local inhabitants, then there is less spending capacity among the local people for supporting local initiative and local employment.

What is needed is an empirical system which local decision-makers can use and understand, and one by which they can simulate changes in the local conditions within the level of their own comprehension, and see the quantitative consequences of proposed decisions within the context of the total community.

The use of the word 'system' implies the use of a relatively new science, that propounded by the biologist Ludwig von Bertalannfy in 1950, "The General Systems Theory",(100) by which the method of using electronic processes to simulate the interaction of the biological organs could be extended and applied to other processes, such as mental and social processes - "it is a logico-mathematical field, the subject matter of which is the formulation and derivation of those principles which hold for systems in general".

Professor George Chadwick explored the use of the General Systems Theory in the town and regional planning process,(101) and describes a "system", from the planner's view-point, as "a relationship between an in-put to a process and its out-put, i.e., there is a flow through a system of information, energy or matter which can be described as an input-output relationship. This relationship can be extended to sub-systems".

Specifying a system needs

(1) the inputs,

(2) the outputs,

(3) the system phase space (i.e., the totality or all possible conditions or states within which the system behaves)

(4) description (or model) relating the inputs to the outputs,

(5) the 'system's state' in time.

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(100) Bertalannfy, Ludwig von, "The theory of open systems in physics and biology", Science, Vol. III, 1950, pp.23-29.

(101) Chadwick, G., "A Systems View of Planning", Pergamon, 1971, pp.36-61.

A system can be represented in a number of different ways, e.g., by diagrams, showing sub-systems or components, especially flow diagrams; graphs, showing the trajectory of the system as a whole from one state to another over a period of time; matrices, to show transitions of relationships; algebra, to show both structure, and change, in systems.

Models are regarded as having different characteristics dependent upon the way in which they represent properties of real world systems.

Iconic models attempt to resemble that which they represent; visual or pictorial, a scale model or a perspective drawing.

Analogue models employ one set of properties to represent some other set in the real world; e.g. colour to represent land use on maps; contours to represent heights of land on maps.

Symbolic models use the language of mathematics in designating the properties of the systems as formulae or equations.

In any concept of a system, in which we begin to visualize sub-systems which operate independently within themselves, but contribute to the working of the total system, there is obviously a discipline of hierarchy, or a hierarchical order of the complexity of systems, and which can be described as a 'system of systems'. Six years after Bertalannfy published his open systems theory, Kenneth Boulding(102) offered a better understanding of the hierarchical levels of the complexities in which future work could be undertaken. He proposed eight levels in which complexity increases in the ascending scale, as follows:-

1. a static system, in which information or energy is related directly to other elements in the system in one point in time; this would take the form of a relatively direct mathematical relationship which can be written into a linear programme for the computer.
2. a dynamic system, which can be either simple or complex; in the simple dynamic system there are pre-determined and necessary motions, whereas the complex dynamic system resembles more the 'stochastic' process, which "is a sequence or set of events ordered in time together with the probabilities of these sequences".(103)

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(102) Boulding, Kenneth E., "General Systems Theory: the skeleton of science", Management Science, Vol. 2, 1956, pp.197-208.

(103) op. cit., Chadwick, P.69.

3. The cybernetic system, wherein the transmission and interpretation of "information" is an essential part of the system.(104)
4. The self-maintaining or open system, i.e., at the biological cell level.
5. The genetic societal level of plants.
6. The animal level, which has increased mobility, teleological behaviour and self-awareness.
7. The human beings, as individual systems, with self-awareness, and possessed of an 'image', and an ability to produce, absorb and interpret symbols.
8. Social organization and human society.

This thesis is concerned with identifying the several systems which have been institutionalized by the society, which, together, interact and are interdependent upon each other, and on which the urban system functions at the local level.

A symbolic model representing such a system would be governed by the quantitative unit of measurement which is common to all the elements of all the systems, or the unit of measurement to which all other values contained in the system can be converted by some agreed factor.

There are four different ways in which the 'systems' can be described (or modelled) in symbolic form; there are

(1) the simple deterministic systems, such as linear programmes used in the electronic computer,
(2) the complex deterministic systems (using the analogue computer, e.g. determining the function of a function),
(3) the simple probabilistic systems, and
(4) the complex probabilistic systems.(105)

Chadwick(106) provides a conceptual systems basis for town and regional planning in which a simple deterministic static model can be developed, ultimately, into a complex deterministic model, and extended thereafter, possibly to include probabilistic inputs, as follows:-

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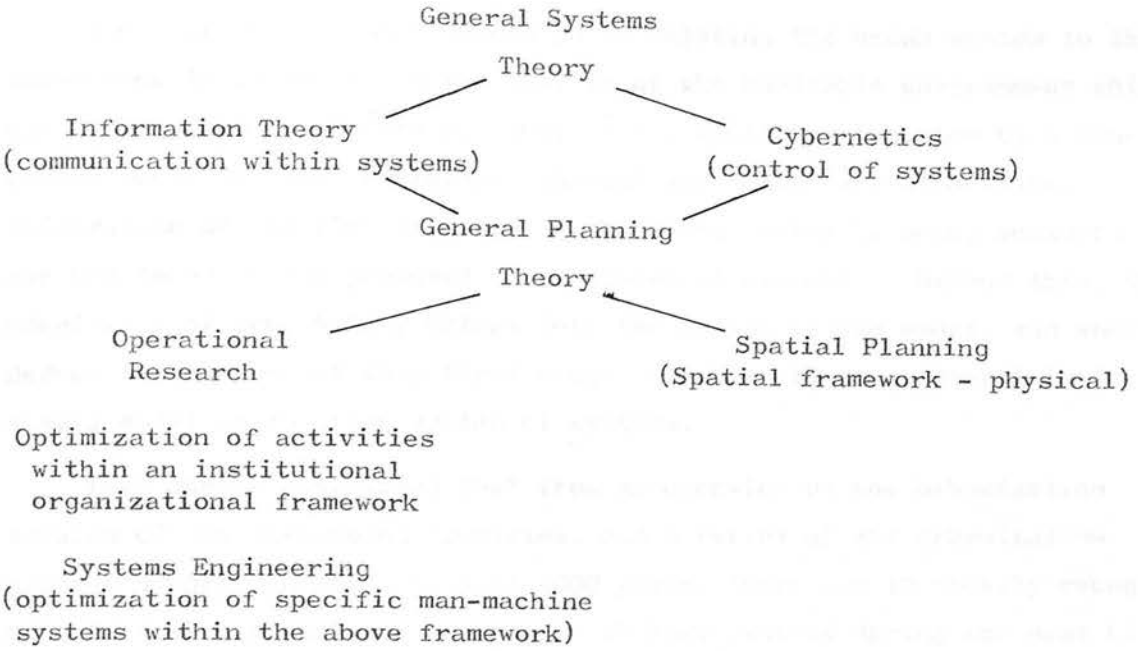
(104) Weiner, N., "Cybernetics", M.I.T. Press 1948. Weiner pioneered the science of the control of communication processes, and by treating information as a statistical quantity, was able to use high speed electronic computers for processing information.

(105) Beer, S., Decision and Control, John Wiley, 1966.

(106) op. cit. p.64.



This thesis is not concerned with the design of a complex model, but rather with the way the information pertaining to the manner in which the several institutionalized systems, which go to make up a total urban system at the local level, can be rationalized into a workable empirical process which can be used by the planners at both local and national level for optimizing the performance characteristics of the town or community. It is concerned with identifying the systems of our urban society, which have already been institutionalized, and therefore have the mechanistic system of the instrumentality, in which, although the human element involved is identified and measured in a mechanical way, it is capable of being an 'adaptive' or 'variable-utilization' system by which decisions can be made to modify the system operation. The design of such a system would require the application of "systems engineering".

The model which is envisaged as a first stage for identifying the interaction of the systems of our urban society, is, in fact, an urban system of systems, which is concerned with the flow of information, in a common unit of measurement for the interaction of the elements of one subsystem with another. The unit of measurement needs to relate values for people and their needs, with land use. The unit of money is used, for convenience, in the first stage, as the element to which all other values can be converted. The model does not attempt to relate an urban system to the eco-system; this would require a very complex deterministic model, on which much research work is proceeding at present.

The nearest our model should go in relating the urban system to the eco-system is to establish the quality of the habitable environment which can be attained by the use of money, which would be allocated by a conscious decision, and, therefore, through some budgetary allocation. Information on the flow of money is the energy which is being measured and monitored in the proposed urban system of systems. Beyond this, the complexity of probability enters into the design of the model, and would defeat the purpose of this first stage, which would be a deterministic static model of an urban system of systems.

This thesis postulates that from an overview of the urbanization problem of the developing countries, and a review of the urbanization process of Britain over the past 1000 years, there are 10 clearly recognizable institutionalized systems which have evolved during the past history of the urbanization process in Britain. These systems have evolved from an interaction between the energy applied at the national level and that applied in the local urban growth processes during the period, and can now be identified clearly as functioning at the local level; they interact, and are interdependent with each other, to make a town function as a whole. Each system, in fact, functions by the functioning of several clearly recognizable sub-systems.

The ten systems which can be identified as going to make up the gross model of the 'urban system of systems', which can be used to accept information in the form of statistical quantities, pertaining to the performance of a town, and by which various levels of activity and the flow of energy, (measured by the flow of money), can be monitored, and the process of which can be simulated, are as follows:-

1. the system of productivity, which comprizes the 12 sub-systems of the occupational sectors of the town. The occupational sectors are those of the official Value Added Tax trade classifications of the government, on which all values of product and employment are measured, and regular returns for which are sent to government:-
    (a) Primary industry
    (b) Manufacturing industry
    (c) Construction industry
    (d) Public utilities
    (e) Transport and Communication

(f) Distributive trades
(g) Retail distribution
(h) Dealers
(i) Finance - insurance, banking, finance and business services
(j) Professional and scientific services
(k) Public administration and defence
(l) Miscellaneous services

2. the system of planning and controlling land use, from which all land use and its value is measured and monitored
3. the system of the control and construction of the built urban environment; an indication of the interaction of the several elements relating to one of the components, i.e. the 'housing' element in this system, is illustrated on p. 63, Diagram 9, "Elements of the Housing Market and the Housing Industry".
4. the system of marketing and trading
5. the system of transport and communication
6. the system of finance, capital accumulation and savings
7. the system of local government and administration
8. the system of central government and administration
9. the system of labour, incomes and spending
10. the system of providing for levels of living and welfare.

The parameters of each system, i.e. the objects of the system, (the input, process output, feed-back and restrictions), can be clearly defined.

Values, and dimensional descriptions, which go to make up the attributes, can be assigned to the properties of the object parameters. The relationships which link the objects with their attributes in the system process can also be identified, and common quantitative units of measurement assigned to facilitate the interaction of one energy flow upon another.

Each system, (and its sub-systems), has individual people responsible for its functioning, each has an input of money regulated and monitored by budgetary allocation and accounting, each has output measured by value of product, and each requires the use of land, which is measured in both area and value.

Programming a symbolic model of the urban system of systems, as it is described above, and as schematically outlined in Diagram 100, p.322, is a major undertaking, and outside the terms of reference of this thesis, but to indicate that the design and operation of such a system is feasible, the candidate, with Dr G. Stacey, and Mr C. MacArthur, of the Edinburgh Regional Computing Centre, programmed the interaction of two of the systems - No 1, productivity, and No 9, labour, incomes and spending, to demonstrate the method which could be used. A simple description of the demonstration of this part of the model is annexed to this thesis, see annex I , pp.410-419.

The completion of the programmes by which all the systems can function within the concept of a symbolic model of an urban system of systems would provide an instrument of much value to those responsible for planning human settlements throughout the world, particularly, in circumstances where financial resources are scarce, and have to be optimized to provide the greatest benefit to the greatest number in this rapidly urbanizing world.

PART IV

THE RELEVANCE OF THE BRITISH NEW TOWN MODEL TO THE URBANIZATION PROCESS OF DEVELOPING COUNTRIES

PART IV

CHAPTER 10: COMMENTARY ON THREE EXAMPLES OF PLANNED NEW COMMUNITIES IN THE DEVELOPING COUNTRIES

1. Introduction

The organizational capacity to plan, finance, build, and manage new towns or settlements can be found usually in the primate centres, unless the new towns are part of a larger enterprize which is concerned with the exploitation of resources. The extent, and degree, of dispersal of settlement to attain optimum satisfaction for national development, i.e. finance, industry, the workers, the families, and the market, is the subject of perpetual evaluation by planners.

In the era of the United Nations, when representatives of 134 governments can now meet annually in one conference hall, and maintain a perpetual communication in common languages, and discuss and objectively evaluate programmes (and progress) of their efforts to bring civilization to all mankind, it is worthy of note that the U.N. has concerned itself with the problem of urbanization.

Chapter 1 of this thesis has revealed that it is one of the essential components in the process of civilization, hence the international concern for the urbanization process. The challenge is not so much to bring the people "out of a state of barbarism",(107) but to bring an increasing proportion of urban dwellers, (some 40% of total urban population at present, with their numbers increasing annually), "out of a state of urban poverty and non-citizenship".

As a means of assessing the relevance of the British urbanization model and new towns to the urbanization problem of the developing countries, examples are taken from three developing countries, each in contrasting environments, but all affected by the same problem of rapid population growth in larger cities, which, today, is known to be one of the contributory causes of the 'urbanization problem'. All three countries were regarded as being in the "developing country" category in the 'decade 60', and are summarized as follows:

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(107) See definition of urbanization, Chapter 1 of this thesis.

	1. GHANA	2. PHILIPPINES	3. BRAZIL
(108) G.N.P. per Capita (1970)	$195	$205	$290
(109) Population (1970)	8.8 million	38.2 million	93.5 million
Annual growth rate (pop.)	2.8% p.a.	3.5% p.a.	2.8% p.a.
Urban population	2.9 million	8.8 million	50.0 million
Annual growth rate of urban population	6.8%	4.3%	4.6%
Population of city being examined	752,000 (Accra)	4.1 million (Manila)	4.5 million (Rio de Janeiro)

The first example, Ghana, is an independent British Commonwealth country, situated between latitudes $4^{o}45'$ and $11^{o}10'$ north. During 'decade 50' the G overnment had adopted a policy for national planning, in which plans for both fiscal and physical development were prepared. A decision was taken to follow the British model for a new town at Tema, which would act as both a "growth area"new town, and to take the 'overspill' from Accra.

The second example, the Philippines, was a former Spanish, and later, an American colony, which gained independence in 1945; it is situated between $4^{o}23'$ and $21^{o}25'$ north latitudes, and comprizes approximately 7100 islands. New communities for the metropolitan overspill of Manila were attempted, but not in the context of the British new town system. The result was a waste of much effort by government, and a frustration for the relocated people involved.

The third example is from Brazil, a sub-continent of some 3,287,195 sq. miles, situated between latitudes $5^{o}05'$ north to $35^{o}00'$ south. A former Portuguese colony, the country was declared a Republic in November 1889.

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(108) World Bank Atlas, 1971.

(109) Urbanization, Sector Working Paper, World Bank, Table 3, Annex 1, pp. 76-79 1972.

Initially, the programme was interpreted to mean 'rehousing' of the 'favelados'[110] in new communities, but this was soon changed, by its own economic justification, to a model approaching the basic concept of the British new town system, in which new balanced communities in a city-region context, with industrial and trading estates, were provided to set in motion an urban economic growth process. A Government agency, CHISAM,[111] was created to implement the programme.

The comparative sizes of the three countries with that of the U.K., in terms of total population, urban population, and the value of gross national product per capita for 1970, is shown in Diagram 101, p.335.

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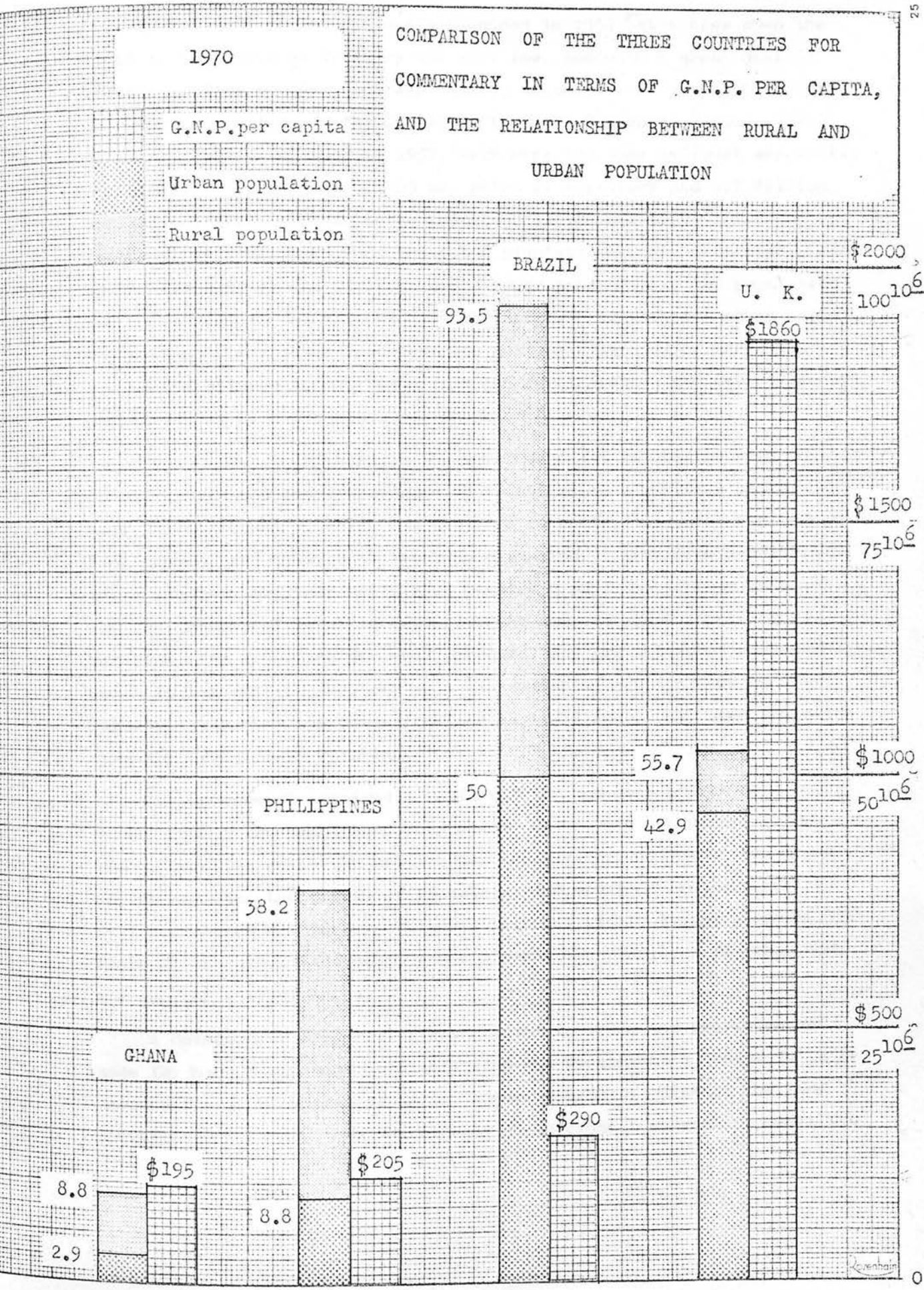
(110) The name given to the 'urban squatters' in Rio de Janeiro.

(111) CHISAM - Coordinacao de Habitacao de Interesee Social da Area Metropolitana do Grande Rio.

DIAGRAM No. 101



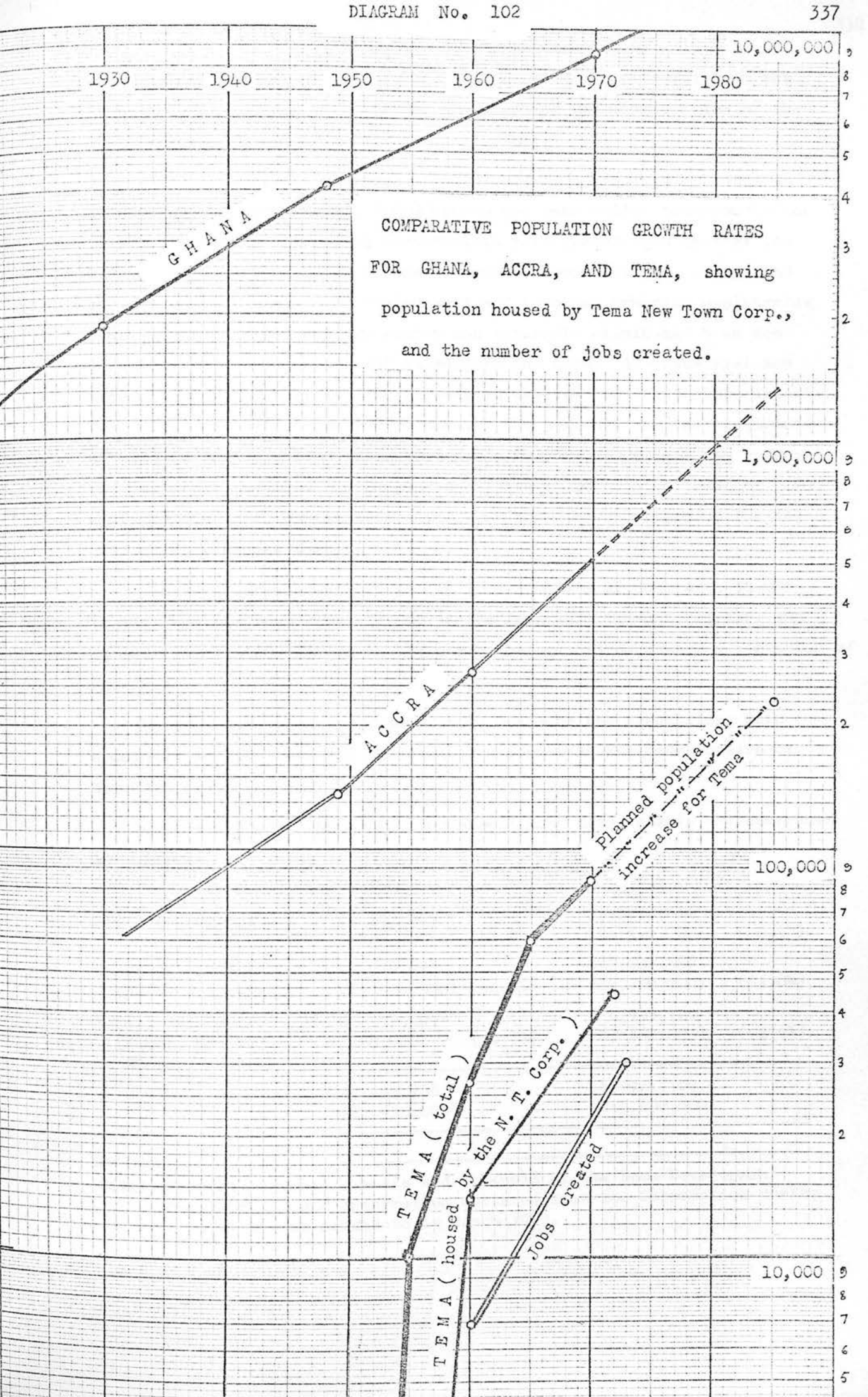
2. A "growth area" new town at Tema-Ghana

Rather as Britain attained nationhood in 1559-60, at a time when the level in the national treasury was very low, and with a great deal of obvious poverty in the towns and cities, in sharp contrast with the elegant, wealthy cities on the Continent (such as Florence, Venice, Rome), Ghana attained nationhood in 1957, with much the same national and social challenges. Apart from 91,483 sq. miles of territory and 4.7 million population, there were economic resources in the country, both existing, (such as the gold mines, and the cocoa plantations), and potential, (such as the Volta River and its vast hydro-power potential); the population was increasing at the rate of 2.5% per annum. As with all other large cities in the developing country, the metropolitan area of Accra was attracting a large in-migration from the rural areas; the population was increasing at 5.5% per annum, as shown on Diagram 102, p.337.

Even before independence, the Government had negotiated with foreign entrepreneurs and had proceeded with establishing a national hydro-power base for the country, which was intended to be the "trigger" for industrial growth, and consequent economic expansion. Aluminium production was envisaged, but this would also require a port and harbour terminal for the industrial-power linkage with the dam, for both importing raw material, for exporting finished products, and for acting as a distribution point to the rest of the country. The existing port for the country, Takoradi, was some 150 miles from the capital, Accra, and some 200 miles from the hydro-power station.

The Government required a rapid rate of economic growth as a means of overcoming the backlog of development needs, and decided on a 'new town', modelled after the British New Town system, at Tema, as a means of accelerating the growth of industrial and manufacturing enterprises at the proposed new port. This was situated within the development triangle of Akosombo, (the hydro-power plant), the port-town of Tema, and the capital city of Accra.

A Development Corporation was created in 1952, and provision was made for loans to be made available from the Government's treasury, to be amortized over 60 years, at 3% per annum interest. Most of the land required for the new town was already in Government ownership, under the



COMPARATIVE POPULATION GROWTH RATES FOR GHANA, ACCRA, AND TEMA, showing population housed by Tema New Town Corp., and the number of jobs created.

control of the Ministry of Defence, (63 sq. miles), and sufficient was transferred to the Corporation for the planning and construction of the new town.(112)

By 1960 ¢6.3 million (£2.5 million) had been invested by loans and grants from the government, 2,600 houses had been built, (accommodating 11,500 persons, or a housing construction rate faster than that of the U.K.), and a further 2,500 houses were under construction. Shops and offices, market buildings, restaurants and cinemas, schools, magistrates court, community and welfare centre and maternity clinic had been constructed, and were operational to support the town; 11 industrial and manufacturing enterprizes were already established on the 54 acre industrial site, employing some 700 persons. The harbour, and the construction of the new town provided employment for a further 6,000, and the private and commercial section was employing a further 300, i.e. a total of 7,000 employed, or more than were employed over the equivalent period for the average British new town.

The total population of Tema in June 1960 was 27,000, with 14,000 in the Tema new town area, 8,000 in the Tema Resettlement Village, and an additional 5,000 living in their own cottages throughout the remainder of the area.

In 1961, the planning consultants, Doxiades and Associates, were appointed to take over the planning, and supervise the construction of Tema New Town.

Over the period 1960-1972, investment into fixed assets was increased as follows:

	1960		1972	
Site Development	¢2,317,804 (£800,000)	(42.5%)	¢11,618,000 (£4,170,000)	(26.6%)
Housing (complete and in progress)	¢2,944,925 (£1 026,000)	(52.0%)	¢27,407,388 (£9,780,000)	(61.0%)
Social Assets (Shops, Social Bldgs., Admin.)	¢ 232,009 (£83,000)	(2.5%)	¢ 4,945,721 (£1 860,000)	(12.4%)
	¢5,494,738 (£1,950,000)		¢43,971,109 (£15,600,000)	

(112) Sources: Annual Reports and Accounts of the Tema Development Corporation, and information collated from the Corporation during a visit by the candidate in March 1973.

Over the period 1960-1972, a further 4,420 dwellings had been completed, and 1,718 were under construction at 30th June 1972. The housing provided then was some 9,531 dwellings for a population of approximately 45,000, i.e. over a period of 20 years.(113) The average cost per dwelling was ₵2,800 (£1,000), as compared with £1,827 for the average house in the British new towns.

The annual investment into the construction of Tema was £1.35 million per annum, which represented approximately 4% of the average value of gross domestic fixed capital formation into building construction for the whole country, or 1.6% of the average gross domestic Fixed Capital Formation, over that period.

By 1973, the number of industrial and manufacturing enterprizes had increased to 65, with private investment valued at U.S. $300 million, (₵255 m. or £91 million, i.e. six times the value of the public investment). Total employment was estimated at approximately 30,000, (though no accurate measurement had been made). Tema had become the principal industrial city in Ghana, all in a space of 20 years, and within the context of a planned built environment which could continue to expand and grow systematically in social terms in unison with industrial and economic growth.

Products being manufactured included building materials, chemical products and fertilizers, steel products, including sheet steel and steel for building materials, household goods and spring mattresses, chocolate, foodstuffs, and textiles. Motor assembly works and cold storage plants were in operation. The output of the aluminium plant was 103,000 tons in 1969, and was expected to increase to 145,000 tons by 1973.

Authoritative survey figures on the value of product for Tema were not available, (as is the case for any new town in Britain), but the information offered by the Corporation officials for the period 1964-68, and related to other official sources(114) indicates a rate of growth of 18% per annum in the value of product of manufactured goods, as shown in Diagram No. 103, p. 340.

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(113) The average cost per person was £346 per person after 20 years compared with the average of £1,000 per person for the British new town.

(114) Economic Survey 1968 - Central Bureau of Statistics, Accra, pp.80/81. (This is the most recent official publication available.)

G H A N A - COMPARISON OF TRENDS OF INVESTMENT

into (a) Gross Domestic Fixed Capital Formation
(b) Building Construction Industry
(c) Cumulative Investment into Tema New Town
(d) Annual Investment into Tema New Town

in relation to

POPULATION INCREASE,
EMPLOYMENT CREATED,
VALUE ADDED BY MANUFACTURING
for Tema New Town

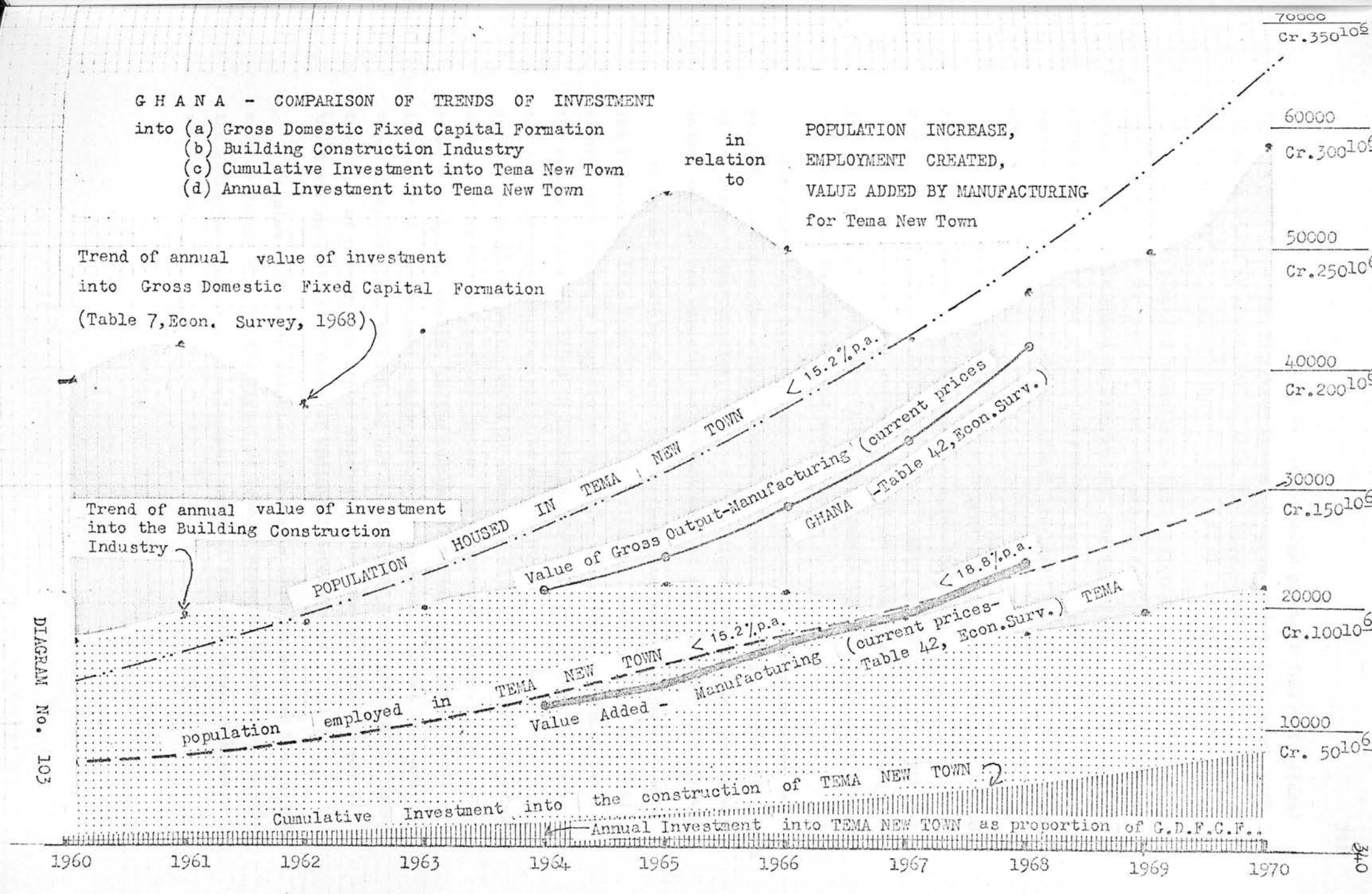


DIAGRAM No. 103

The value of gross output of manufactured products (current prices) for the whole country increased from ¢107 m. in 1964 to ¢219 m. in 1968, and value added by manufactured goods (at current prices) increased from ¢59 m. to ¢118 m.

Though the planning consultants had predicted, on the information on inputs available to them, an economic growth rate for the town of 8% per annum, in fact, as shown on Diagram 103, the value added by the manufacturing sector over the period 1964-68 was probably 18% per annum, and the increase of population, and employment provided, was at the rate of 15.2% per annum.

The planning consultants had made provision in their plan for a rate of population increase of 12% per annum for the first 10 years of their plan, i.e. from 1961-71, but anticipated a slowing down of the growth rate thereafter, to an overall average of 9.1% per annum for the 25 year period, 1960-85. The plan made provision for a population of 234,000 for Tema by 1985, as shown in Diagrams 102 and 104.

The consultants expected the average income per capita of Tema to be slightly less than the average income per person in Accra; being the centre of employment opportunities, the port, buildings construction, and service industries, it was expected to attract most of the new rural in-migrants.

It is not possible to draw any accurate conclusion on just how much the investment into Tema has contributed to the creation of annual wealth, without undertaking a specific study. The indications are that, (as is the case with the new towns in Britain), the new town of Tema has made, and will continue, increasingly, to add to the value of gross domestic product through the value added by manufactured goods, and will contribute substantially to both national income and government income. The value added to national wealth, in the context of permanently settled families in good urban environment, which becomes a continuing market for manufactured goods, will be as much, if not considerably more, per capita, than the value of product per capita which could be expected from the use of the funds in most other forms of municipal development.

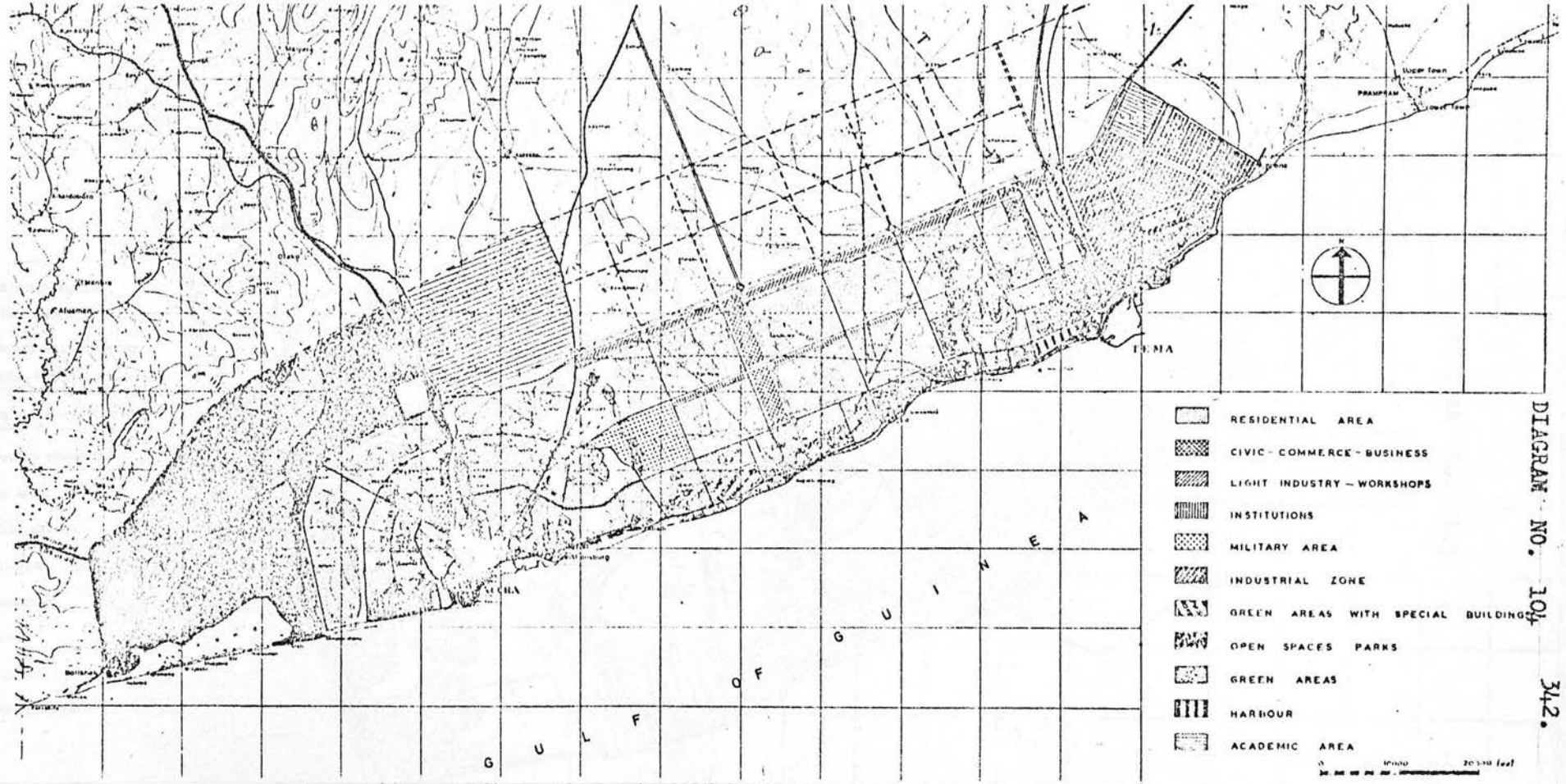
The plan of Tema in relation to Accra is shown on Diagram 104, p.342, and the Master Plan of the layout of Tema is shown on Diagram 105, p.343; the estimated cumulative development costs of Tema are shown in Diagram 106, p.344.

THE MASTER PLAN

GENERAL CONSIDERATIONS

The study of the present Development Programme and Plan started with the appointment of Doxiadis Associates as Consultants for the overall planning and development of Tema. Doxiadis Associates conceived of this study within the framework of a broader plan for the Accra-Tema Metropolitan Area which had been previously prepared by them as part of the regional study for the Accra-Tema-Akosombo regional triangle. According to plans for the Metropolitan Area, the base of the above triangle along the coast would develop into one urban entity, the Metropolitan Area, composed of three distinguishable zones, the western zone of Accra, the eastern of Tema and the central zone of the areas in between. Each of these three areas focuses upon a zone of central functions, which extends from south to north, connecting the Metropolitan Area with the rest of the triangle, and the triangle with the country.

From p.5, TEMA
A NEW TOWN, TEDECO
DOXIADIS ASSOCIATES



LAYOUT OF TEMA IN RELATION TO ACCRA

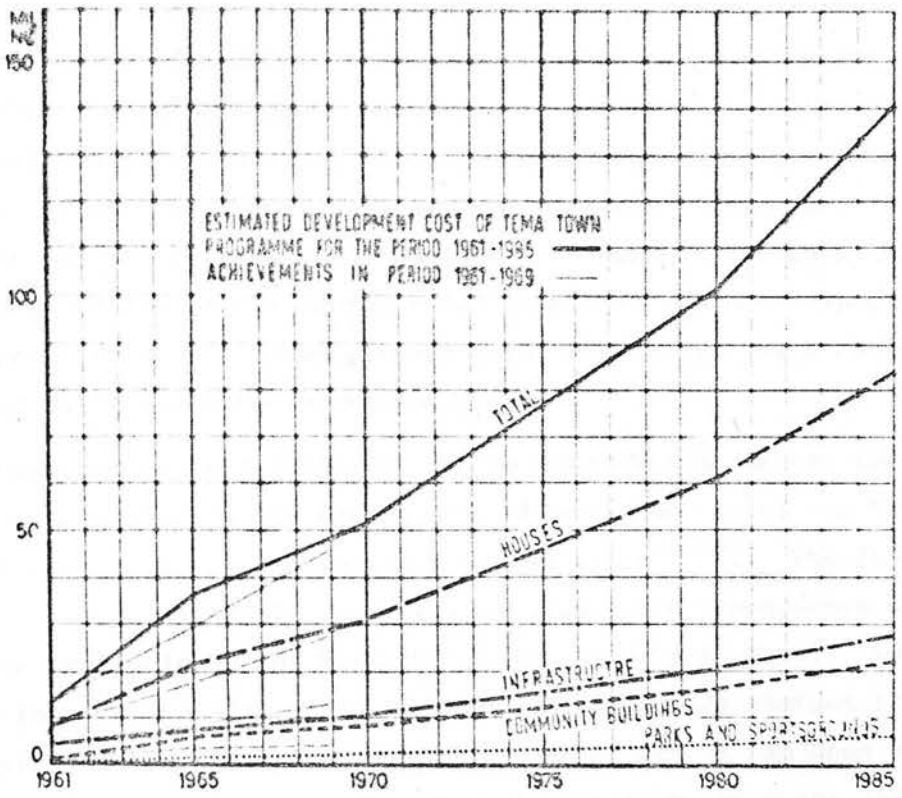
DIAGRAM NO. 104

MASTER PLAN OF TEMA NEW TOWN

Gross residential densities were set 7 to 12 dwellings/acre
or 30 to 50 persons per acre; family size estimated at 5 persons.

DIAGRAM No. 105

DIAGRAM No. 106



CUMULATIVE COSTS OF THE CONSTRUCTION OF TEMA

3. New Communities for the Urbanization Problem of Manila

A survey in 1950 of the squatter colonies in Greater Manila revealed 4,300 families (23,000 persons), or 1.3% of the population of the city at the time, (i.e. 1,700,000). Beginning in 1951, a presidential committee on slum clearance began a programme of relocation of some of the squatter families to a new site, which had been made available from the 'land stock' of the Government's housing corporation. However, no budgetary provision had been made for any action programme and each departmental representative on the Presidential Committee had been expected to provide support to a relocation project from any savings which could be accrued from their own departmental budgets.

The committee members followed, in the most literal sense, the instructions contained in the Presidential Memorandum, which was "to assist in the transfer of the families to new sites"(115). The families, and the remnants of materials from their shacks, were transported by trucks, made available by the Corporation of the City of Manila, to the demarcated lots on the site of 40 hectares, 8 kilometers distant from the city. There the families were 'dumped'. No provision had been made to assist the families in the erection of their shelters, no roads had been constructed, no water supply provided, nor any system of site drainage, nor any community rehabilitation facilities. By 1955, four years later, a total of 1,333 families had been transferred to this "relocation site", which had been planned, originally, to accept 1,380 families. However, by this time, the total number of squatters in Manila had increased to approximately 90,000 persons.

In retrospect, it is apparent that the central Government accepted a responsibility to act in the urbanization problem at the local level, but was tending to under-estimate the national trend of rural to urban shift of population to Greater Manila. The Government failed to acknowledge the capital input which would be necessary as a pre-investment for the consolidation of the families in any such urbanization programme.

After complaints from the resettled families, especially concerning the shortage of water, the Social Welfare Administration provided eight

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(115) Juppenlatz, M.: Urban Squatter Resettlement, Sapang Palay, a case study in the Philippines, U.N. Office of Technical Cooperation 1965, p.11.

artesian wells and began a programme to encourage the relocated families to construct low-cost sanitation arrangements in the community. Bus companies began to provide regular transport services to and from the city for those who had employment. By 30th June 1955, only 591 persons out of 1,333 families were known to have any form of employment, and this was mostly casual labouring.

Though the Social Welfare Administration, (in collaboration with the Quezon City Engineer's Office), allocated a plot to each relocated family, no contractual arrangements were made by the People's Homesite and Housing Corporation, (the owners of the land), for the sale of the plots to the squatter awardees. The families were originally awarded a plot of 75 square metres, but these were later redemarcated, and increased by the Corporation to 250 square metres.

Health services, generally, were provided by the Quezon City Health Department, but a new element of support for squatter relocation projects had by this time been introduced; the voluntary assistance of the Bureau of Agricultural Extension and several voluntary charitable institutions, such as World Neighbours, Inc. The settlers were given training by the agencies in projects designed to make it possible for them to obtain some income, such as dressmaking, making paper bags, bamboo fans, woven mats, frypans, breeding tilapia fish, laundering, and such like, and this programme, undertaken by both government and private agencies, assisted in providing the families with some means of subsistence.

In 1953, as a result of the eviction of a group of squatters from some privately owned land in Quezon City, the People's Homesite and Housing Corporation was requested by the Slum Clearance Committee to make more land available, (preferably land adjoining the North Bago Bantay Resettlement Project), for the relocation of these particular evicted squatters. This second project, comprising 652 lots, was known as the Bagong Paga-asa, which, literally translated, means, "new hope". In this project, the Corporation issued a sale of contract to the occupants as early as 1954, only to find that upon the issue of the contract of sale, many, if not most, of the relocated squatters immediately sold their "rights" to the lots to those who wanted the land to speculate, or even construct a house of their own, and went back to squatting in Manila,

enriched by the experience.(116)

Already, it was becoming obvious that one part of the problem was to be found in the urban land tenure, and land ownership system of the large city; land under government control in sufficient quantity to accommodate this increasing number of in-migrants was not available, and Government was having difficulty in raising funds to purchase further areas of land needed.

By 1963, 1668 hectares had been set aside by the government from government corporation land, or had been acquired by Government for squatter relocation and resettlement. All the land was within a 40 kilometre radius of Manila, as shown on Diagram 107, p.348. The area set aside consisted of:

60 hectares in Quezon City (Bago Bantay and Pag-asa), on the fringe of the built-up area of Greater Manila, and 8 kilometres from the centre of Manila, (1951).

166 hectares which were 25 kilometres north of the city, beyond Novaliches, at Kamarin, (1956).

32 hectares at Gabriel Estate, in (1956).

759 hectares, which were 37 kilometres north of the city, at Sapang Palay, (1960); and

660 hectares at sites known as Dasmarinas and Carmona, 25 kilometres south of the city, (1960).

Even though areas of land of sufficient size, and the numbers of people involved in the relocation efforts, were of the scale requiring the planning, and the establishment of 'new towns', the government could not justify the allocation of any funds from the low government budget, nor were any loans from either the public or private sector contemplated, as the amortization capacity of those who would inhabit these communities was so low.

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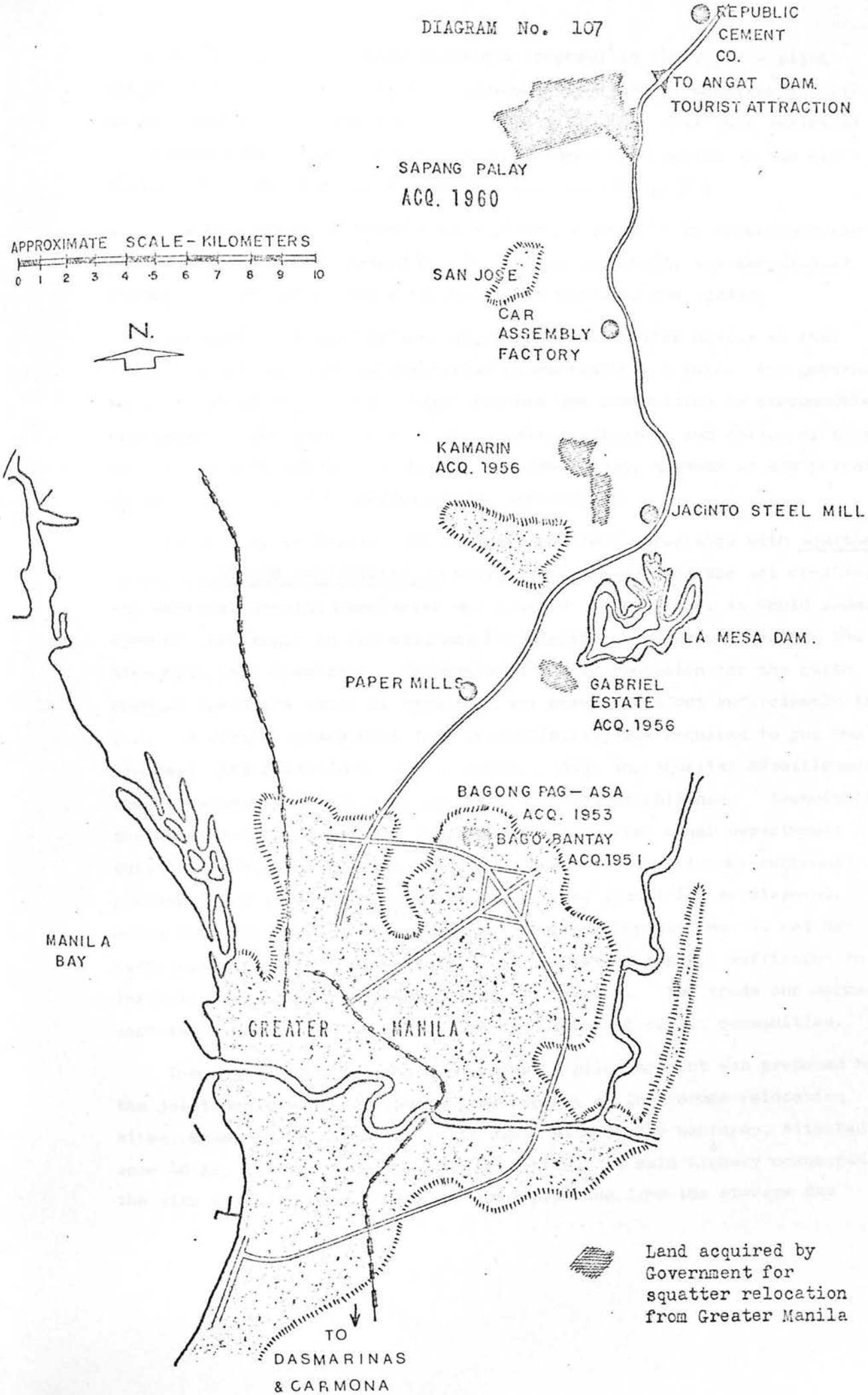
(116) A similar reaction was experienced in 1959, when upon a petition from the residents of North Bago Bantay, i.e. the first resettlement project, the People's Homesite and Housing Corporation awarded titles to the occupants of the lots, only to find that the original relocated families sold their "rights" to the land and moved back into other squatter colonies throughout Manila.

DIAGRAM No. 107



In 1963, the government adopted a proposal to carry out a pilot project for a new community to accommodate some of the squatter families, which could be both experimental, and possibly the first in a series of new communities within the context of planned urbanization of the city-region of Greater Manila, as shown in Diagram 108, p. 350.

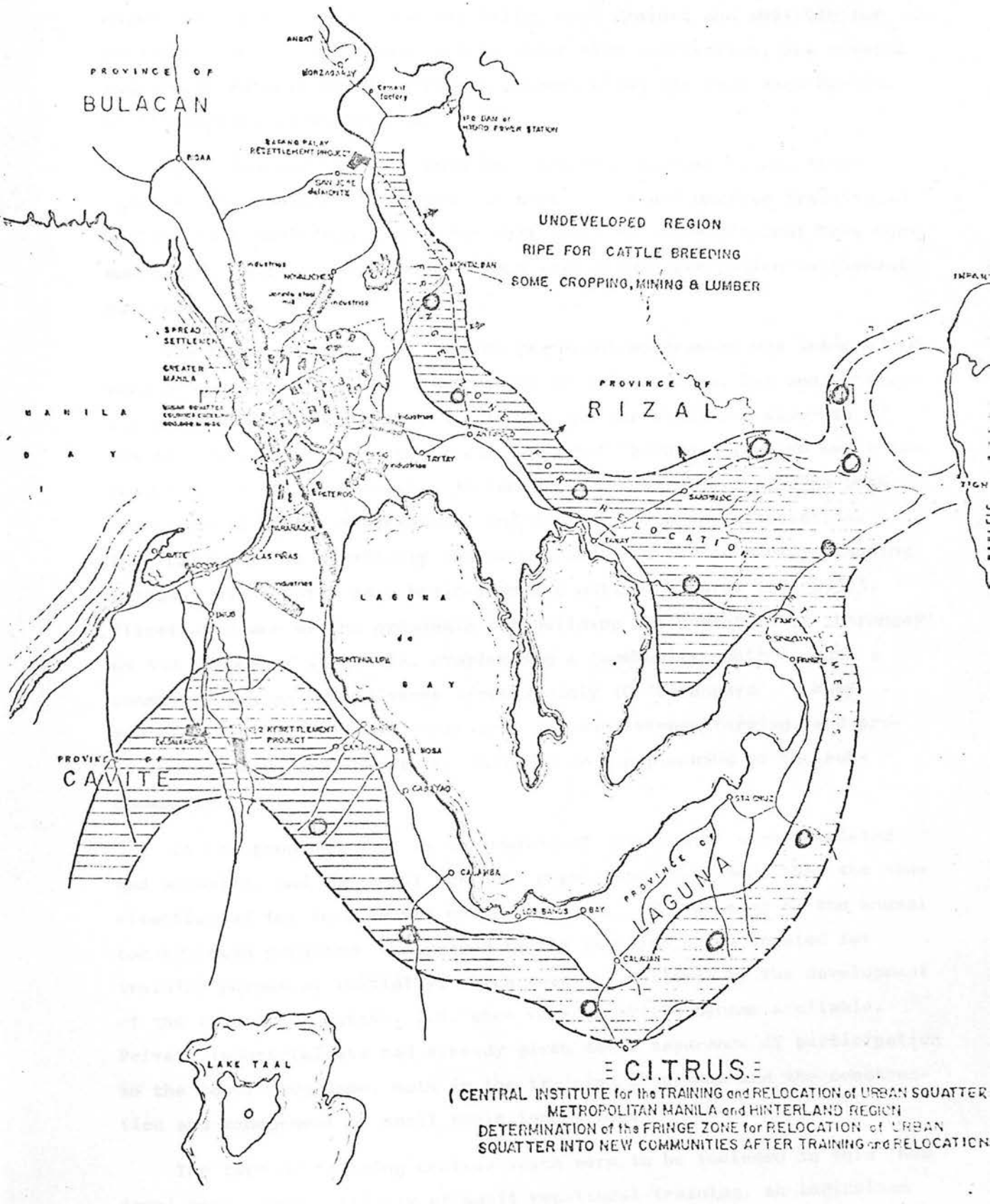
A programme by an inter-agency planning group, with interdepartmental collaboration, (each drawing on its own budget, staff, and coordinated through the office of the President), was drawn up and agreed.

The number of new families migrating into Greater Manila at that time, was estimated at approximately 6,500 families a year; the government was going to try and provide planned new communities to accommodate, each year, 5,000 families from the squatter colonies, and follow up this relocation with support in the form of employment, as soon as the private entrepreneurs could be encouraged to participate.

The human, technical, and economic problems associated with squatter resettlement and rehabilitation were not envisaged when the Act creating the National Housing Commission was drafted in 1940, and, it would seem, were not envisaged in the original Presidential Memorandum creating the Slum Clearance Committee; therefore, adequate provision for the quite complex procedure which is required were never spelt out sufficiently in law. A single agency with full responsibility was required to put the proposal into operation; on 7th August, 1963, the Squatter Resettlement Agency, within the Office of the President was established. Technically, the Resettlement Agency had the representation from other departments which would have enabled it to make proposals related to city-regional planning, new town planning, town management, industrial development, human resources training, and agricultural development, but it had no statutory powers of implementation, nor budgetary support sufficient to initiate any such development project on its own. The trade and marketing aspects were expected to follow the establishment of the communities.

The master plan for the new community pilot project was prepared by the joint departmental planning team for one of the former relocation sites, known as Sapang Palay. It was a site of 759 hectares, situated some 40 Km. distant from the city of Manila. A main highway connected the site with the city, the main water pipeline from the storage dam

DIAGRAM No. 108



C.I.T.R.U.S.

(CENTRAL INSTITUTE for the TRAINING and RELOCATION of URBAN SQUATTER

METROPOLITAN MANILA and HINTERLAND REGION

DETERMINATION of the FRINGE ZONE for RELOCATION of URBAN SQUATTER INTO NEW COMMUNITIES AFTER TRAINING and RELOCATION

O Sites selected for new communities

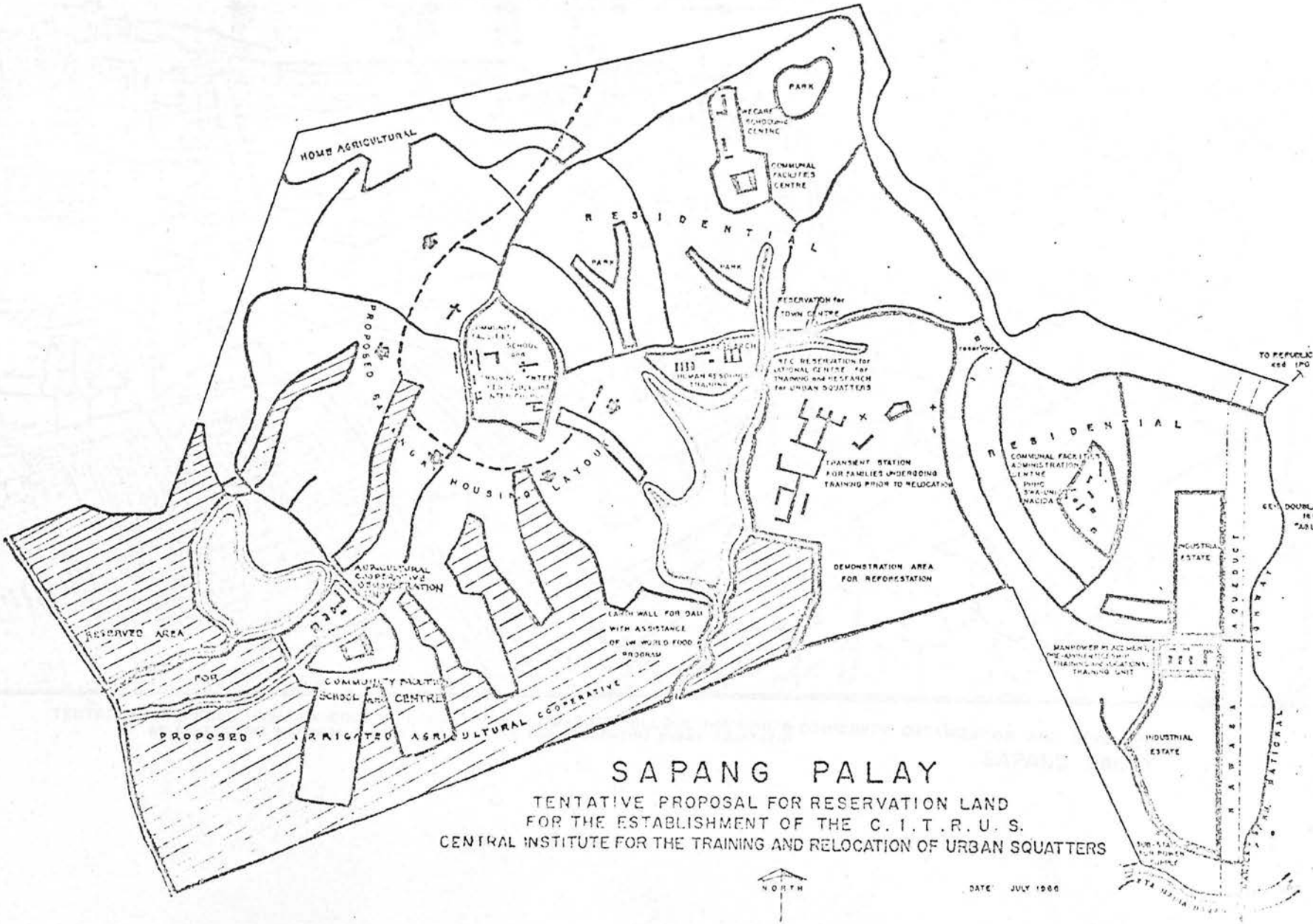
serving Manila traversed the site, high-tension power lines crossed one corner of the site, the land was hilly, well drained and suitable for housing; 200 hectares were already under rice cultivation, and several industrial establishments were operational along the road from Manila, as illustrated in Diagram 107, p.348.

Provision was made for both the permanent community, and those families who would be transient, in that they would undergo training in skills which would equip them for settlement in the additional "new communities", which would be established within the city-region settlement concept.

The community planning for the permanent settlement was intended to make provision for various preferences of the families, but one particular concept which was both traditional, and for which the majority of families had indicated a preference, was the 'barangay', which was a cohesive group of approximately 30 families, which is derived from both the extended family association, and/or the provincial association. The 'barangay' is a socially cohesive group, and for community planning purposes was adopted as a basic planning unit. Diagram 110, p.353, illustrates one of the proposals for building the houses for a 'barangay' on the slopes of the hills, overlooking a 'community centre', such a community centre would serve approximately 10 'barangays'. Many families wanted their own 'home lot' for subsistence farming, and provision was made for this to be included in the planning of the sub-community.

It was proposed that as the number of 'barangays' were completed and occupied, and the total resident population increased, then the construction of the town centre could commence. The phasing of the annual construction programme was geared to the families being located for training purposes, initially, which would be followed by the development of the industrial estate, i.e. when various skills became available. Private industrialists had already given their assurance of participation in the total programme, both in the training programme and the construction and management of small scale industries.

The type of training centres which were to be included in this 'new town' were aimed initially at adult vocational training, an indication



SAPANG PALAY

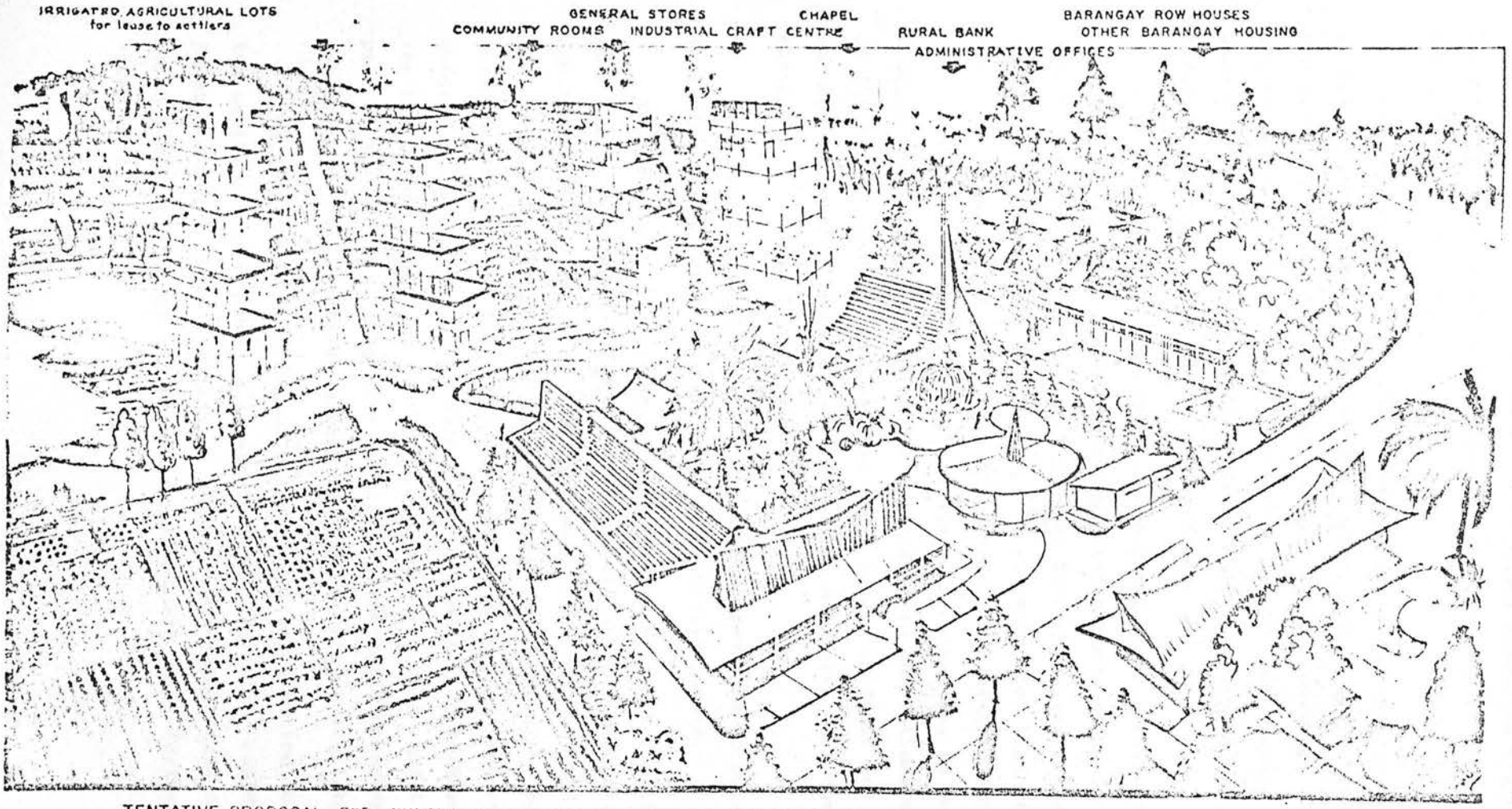
TENTATIVE PROPOSAL FOR RESERVATION LAND
FOR THE ESTABLISHMENT OF THE C. I. T. R. U. S.
CENTRAL INSTITUTE FOR THE TRAINING AND RELOCATION OF URBAN SQUATTERS

DATE: JULY 1966

DIAGRAM No. 109

HILLSIDE TERRACED HOUSING

BARANGAY CENTRE



TENTATIVE PROPOSAL FOR EXPERIMENTAL BARANGAY LOW-COST HILLSIDE HOUSING & COMMUNITY ORGANIZATION AND DEVELOPMENT
AS PART OF THE NATIONAL CENTRE FOR TRAINING AND RELOCATING URBAN SQUATTERS

SAPANG PALAY

DIAGRAM No. 110

of which is shown in the layout of the (i) Manpower and Vocational Training Unit, Diagram 111 , p.355 , (ii) Human Resources Training Centre, Diagram 112 , p.356 , and (iii) Agricultural Cooperative Demonstration Unit, Diagram 113 , p.357 .

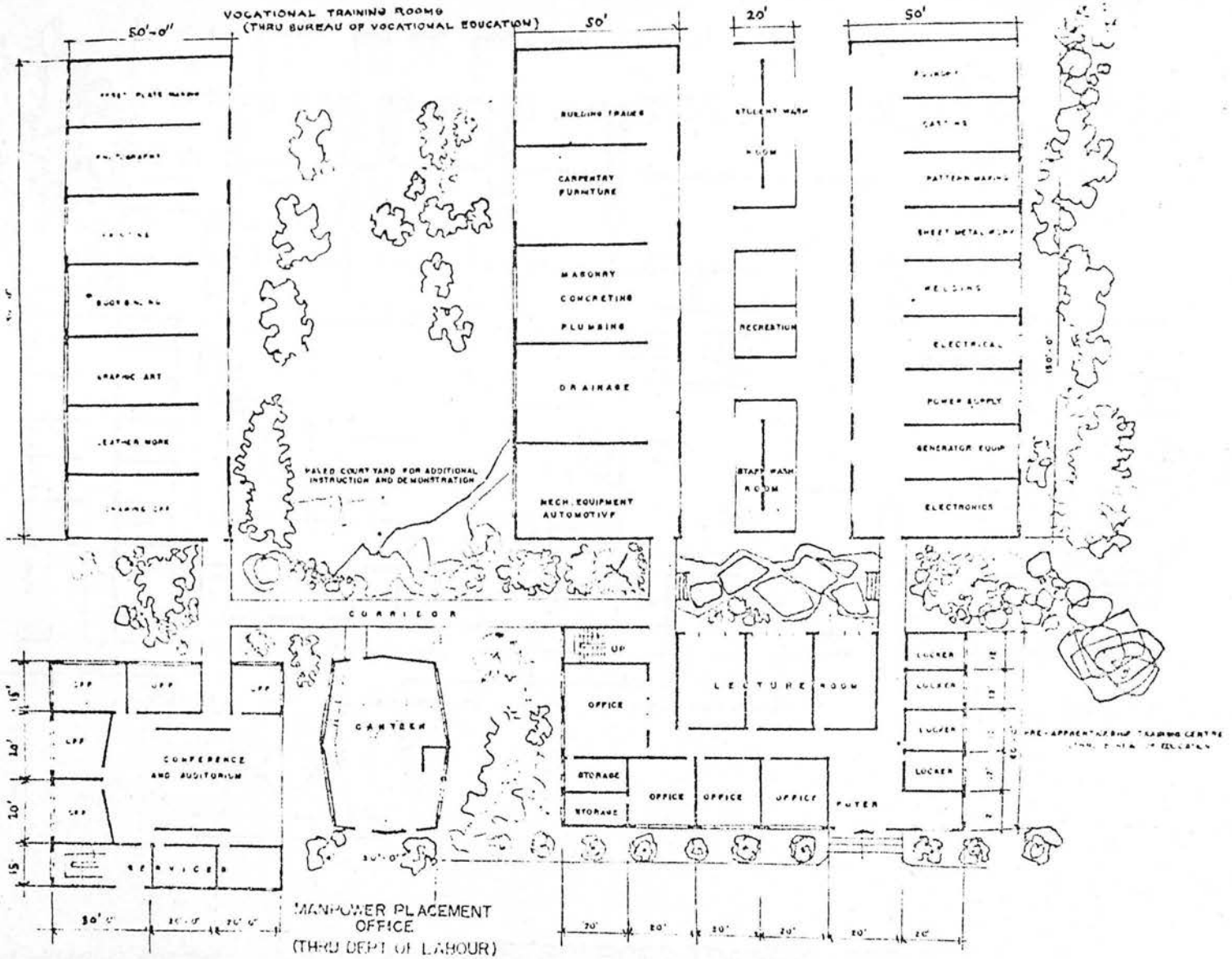
For Sapang Palay, the plans had been prepared for the demarcation of sites, water supply distribution system, power supply lines, sites for elementary and trade schools, market, small industrial estate, health centre, central administration and staff houses, preparatory to the phased relocation of the families from Manila, commencing with volunteer families for relocation in the early phases.

The economic basis planned for the community was that of home subsistence in the early months, until population and enterprize increased, when the economy could gradually develop through an agricultural cooperative, and cottage-type industries. It was estimated that plot size should be between 350 and 500 square metres, according to the land and soil capability of the area. Frontage of each lot was to be 17 metres. Studies were made by agricultural economists on the optimum utilization of the sites, whereby the families could engage in fruit and vegetable gardening, poultry and pig-raising, within a supervised programme of home economy.

From the 750 hectare property, 200 hectares were to be set aside for irrigated rice fields on a collective cooperative basis.

The programme of employment over the transition period of resettlement was based on a programme of work involving the preparation of sites, construction of public and community buildings, offices, and houses, and the gradual training of the people in poultry and pig-raising, mushroom-culture, etc. The training programme was to be financed from the normal budgetary allocation to the education department. Provision was made for the Development Bank of the Philippines to manage credit unions, and provide small initial loans to families in the total programme. The resources of the National Cooperative Bank were also available.

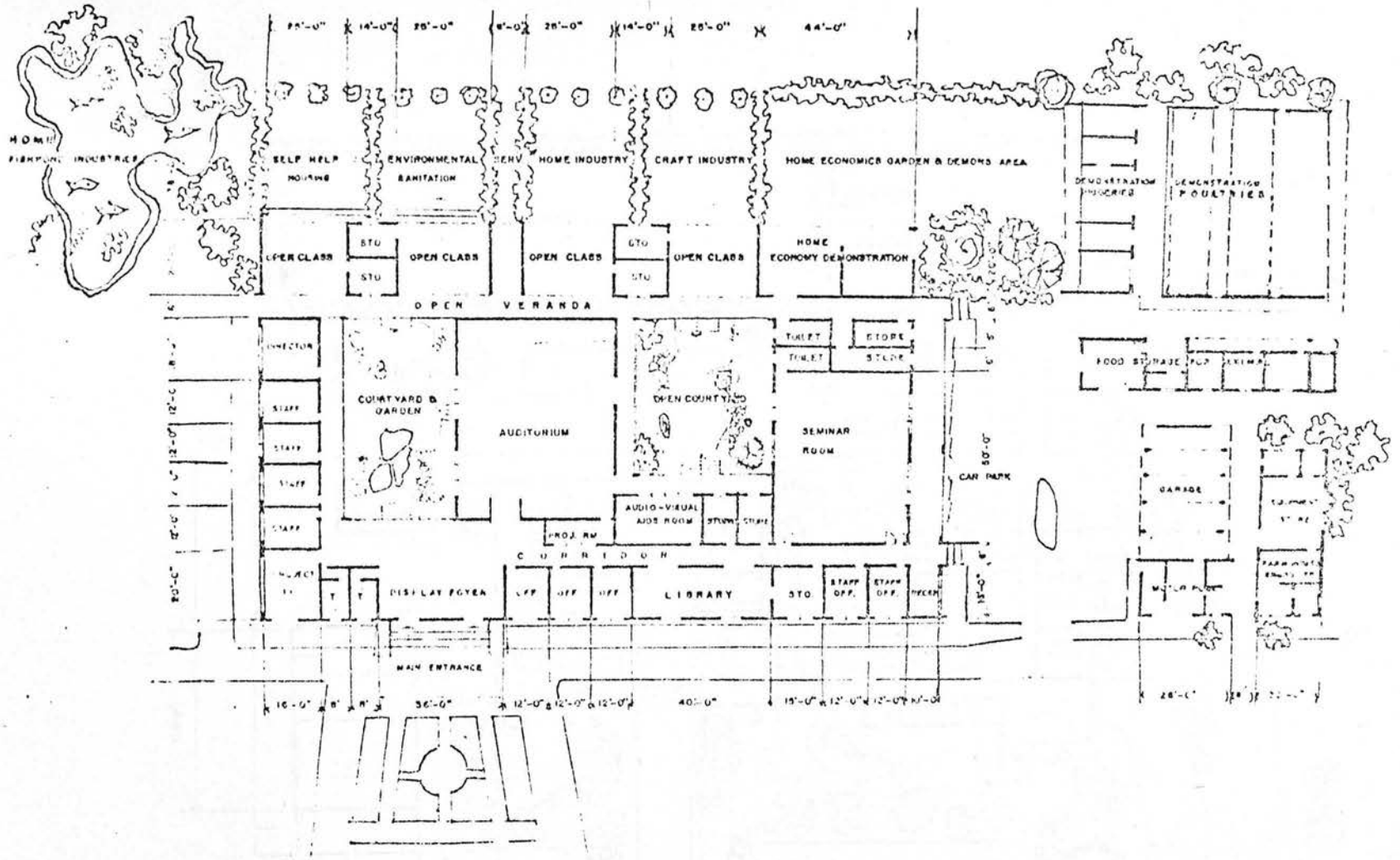
The intermediate period of resettlement was expected to be at least two or three years, until small-scale industrial sites could be prepared, power and water supply installed, and an industrial estate established which could expand the economy of the community still further, and at an accelerated rate.



SAPANG PALAY
SCALE 1/16" = 1'-0"
DATE JULY 1956

MANPOWER PLACEMENT, APPRENTICESHIP AND VOCATIONAL TRAINING UNIT
TENTATIVE PROPOSAL FOR NATIONAL CENTRE FOR TRAINING AND RELOCATION OF URBAN SQUATTERS

DIAGRAM No. 111



TENTATIVE PROPOSAL FOR THE

HUMAN RESOURCES TRAINING UNIT

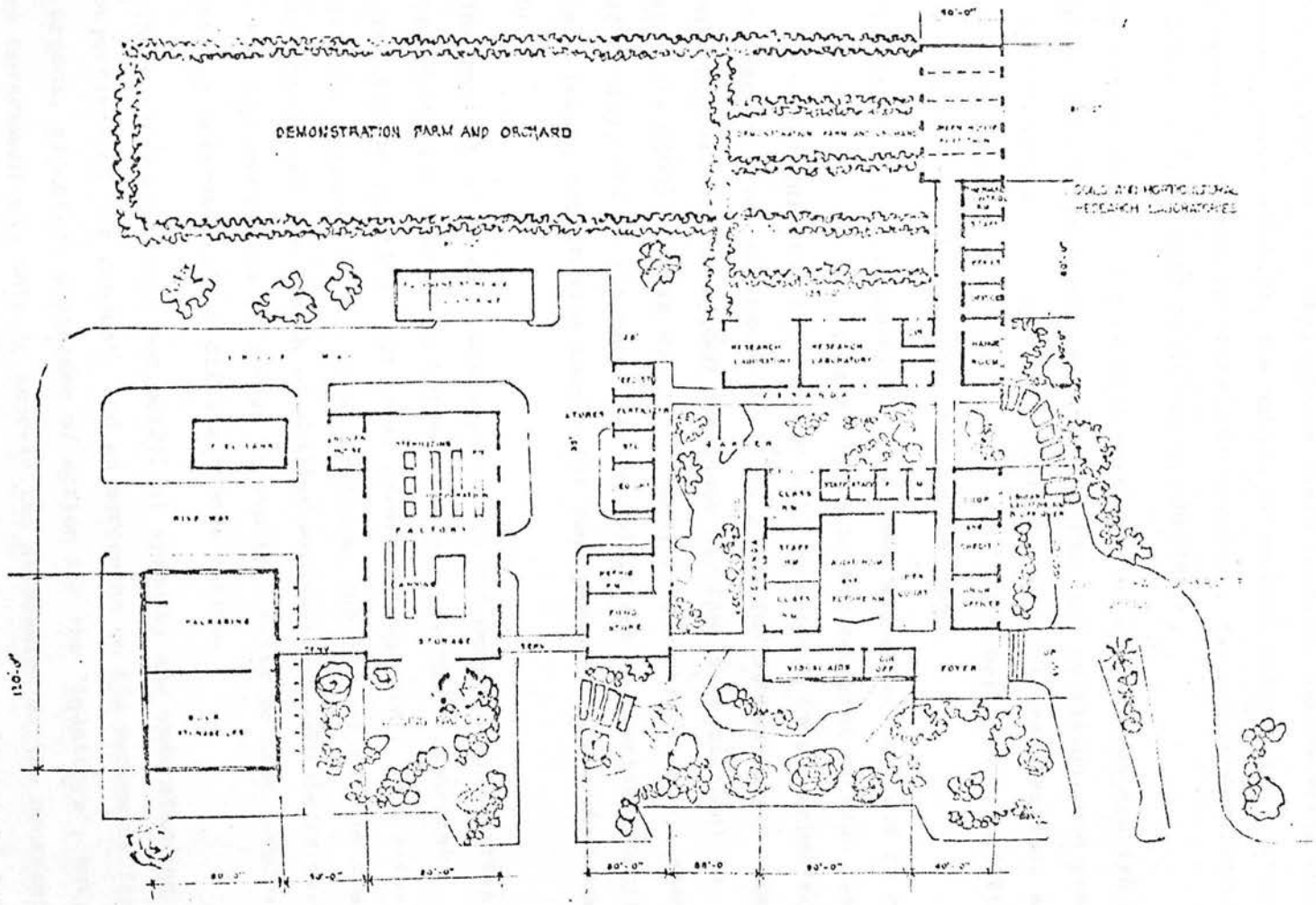
AS PART OF THE NATIONAL CENTRE FOR TRAINING AND RELOCATION of URBAN SQUATTERS

AT SARANG PALAY

SCALE 1/16"=1'-0"

DATE JULY 1966

DIAGRAM No. 112



TENTATIVE PROPOSAL FOR THE AGRICULTURAL COOPERATIVE DEMONSTRATION UNIT
AS PART OF THE NATIONAL CENTRE FOR TRAINING AND RELOCATION OF URBAN SQUATTERS
AT SAPANG PALAY

DIAGRAM No. 113

The National Agency for the Development of Cottage Industries (NACIDA) planned to inaugurate training schemes for the families so that they could engage in small factory work, homecraft and cottage industries, embracing shoemaking, the sewing of wearing apparel, tailoring (particularly for the Philippines Armed Forces), hand-weaving (using abaca fibre, grown locally), the making of coconut coir matting, carpentry and furniture making (particularly furniture for government offices, school desks, etc.), metal craft and blacksmithing.

The establishment of a central exchange, or central cooperative market, which would be responsible for marketing, and retailing, and providing opportunities for employment through a central organization, and a cooperative banking system, was envisaged. Further credit facilities were to be made available through the NACIDA Bank.

Once the industrial employment programme was under way, and an earth dam constructed to provide water to irrigate 200 hectares of rice fields, and the home agricultural economy was well developed, it was expected that the family level of income would be above the minimum basic wage, and could approximate to P3,000 per annum per family (equivalent to approximately £300). This would be adequate to ensure a decent standard of living, and at the same time be sufficient to amortize repayment for their loans, and provide enough for some personal advancement and savings.

The reality of planned urbanization in the developing countries, with collaborative endeavours between central government agencies, (individually or jointly), and local government agencies, is a situation in which the pressure of the urban problems, the visible rate of change of population, and the dearth of skilled managers and administrators, makes the implementation of a 'new community', (with so many complex interacting instruments), a difficult undertaking.

There was much public and political sympathy and understanding for the objectives of the project, and an agreement on the necessity for some urgent, effective programme of action for the 'squatters', but, before Government was able to approve the allocation of the necessary funds, the authorities of Manila moved to "abate the nuisance of the squatters of Intramuros, Tondo, and North Harbour".

This resulted in 4,500 families, (nearly 25,000 people, in all stages of health and age) being deposited on the 'relocation site of Sapang Palay' in less than 4 months, without adequate preparations having been made on the site to receive them, and in total disregard of the central government's programme.

The Mayor and his advisers deemed it necessary to clear all of the urban squatter families in these colonies simultaneously, on the grounds that

(i) the squatters were so well organized that the prolonged programme of the Presidential Agency would not make any immediate impact on the squatter problem.

(ii) Intramuros and Tondo squatter colonies were the breeding grounds of organized crime in Manila, and had to be dispersed immediately.

(iii) The operation had to be carried out as a highly concentrated tactical exercise by the authorities, whilst the court order to "abate the nuisance" was still valid.

The Mayor expected the professional squatters and their legal and legislative protectors to apply for, and obtain, a restraining order from the Court within a short space of time, but this took four months before it became effective.

A list of the employment aptitudes of 2,557 heads of household who were transferred, indicated a large work force which, if integrated in a community construction programme, could contribute to the establishment of a balanced new community, (see Table 42, p.360).

In the reality of the situation, the Government did not approve or release the funds necessary to proceed in an organized way with the proposed new community. It had all the appearances of being a 'relocated slum'. The site was crowded with families who were able to make temporary shelters whilst the Army engineers and many of the government officials, and private charitable groups, did much to alleviate the immediate hardships of the relocated families, and bring some order and management to the site, but financial support to bring the 'new community' into existence, as envisaged by the programme of the President, was not provided by Government as a budgetary release, but rather, only savings from the departments which were committed to the programme could be used.

TABLE 42

Squatter Families - Employment aptitude or skills of the relocated families upon being interviewed over the period Dec. 1, 1963 to Feb. 28, 1964

Kind of employment in which squatter was previously engaged	Number of Heads of Household
Baker	6
Barber	23
Beautician	4
Butcher	3
Caddy	9
Carpenter	142
Checker	5
Cook	23
Dressmaker, Tailor	73
Driver	154
Electrician	17
Employee	104
Engineer	5
Farmer	5
Fisherman	37
Foreman	4
Home Industry & Pig Raising, umbrella repairer, watch repairer, shoe repairer, handicraft worker, paper bag maker, poultry raiser, shoe maker, rubber stamp maker, woodcraft, embroiderer	33
Janitor, messenger	22
Journalist	1
Labourer, cargador, helper, waiter, baby sitter, waitress	1,106
Laundry man, laundry woman	106
Lawyer	1
Mason	21
Mechanic	32
Midwife	3
Operator	11
Optometrist	1
Painter	36
Pensioner	2
Photographer	3
Plumber	5
Policeman	2
Quartermaster, captain of a motorboat, seaman	48
Salesman, salesgirl, agent storekeeper	48
Scavenger	7
Security guard	70
Shoe shiner, newspaper boy, washboy, polisher	20
Soldier	3
Stage Actress	1
Technician	6
Tinsmith, vulcanizer welder, blacksmith	17
Tutor	4
Vendor, merchant, fish dealer, buy & sell, sari-sari store, RCA retailer, peddler	334
Total	2,557

Diagram 114, p.362, gives an indication of the situation and the quantitative aspects of need by March 1964, and revealed an acute unemployment problem. As a result, many of the relocated families moved back to squatter colonies in Manila.

The work in the field then became an organizational challenge, one which meant converting the various proposals of the development plan into the very complex coordinated inter-agency programme of action in the field. Meanwhile, many volunteer personnel and agencies assisted the government personnel to keep going a programme of health, food and home economy.

By the end of 1965, as a result of the consistent efforts of the officials of government, non-government agencies, and the charitable organisations, the Sapang Palay project had been reoriented and reactivated into the pilot squatter-resettlement project, as originally envisaged by the Presidential Slum Clearance Committee, but it was deficient in employment opportunities, and the facilities for training were still in arrears.

Politically, the government could not overcome the dilemma between deliberately channelling funds, (at the scale necessary for such an operation), away from on-going national programmes of social and economic development, (which benefited the whole country), to an investment which would apparently benefit only a few thousand families. There was no evidence then that such an investment would contribute to the national wealth of the country; there was no adequate model available for measuring the value which investment into new communities or new towns, after the British model, would add to national income; nor was there any satisfactory way of measuring rates of increases in national wealth which would accrue by the use of public funds over a given time period, related to the diseconomies which were being created by the ever-growing slum and squatter colonies throughout a modern city.

In reality, and in the circumstances pertaining to the political system, (and behaviour), in the developing countries, there are priorities and local values in the decision-making process which mitigate against the fulfillment of objectives, such as planned new communities, using the British model. The circumstances appear to reflect similar circumstances which have existed throughout the historical process of the urbanization of Britain.

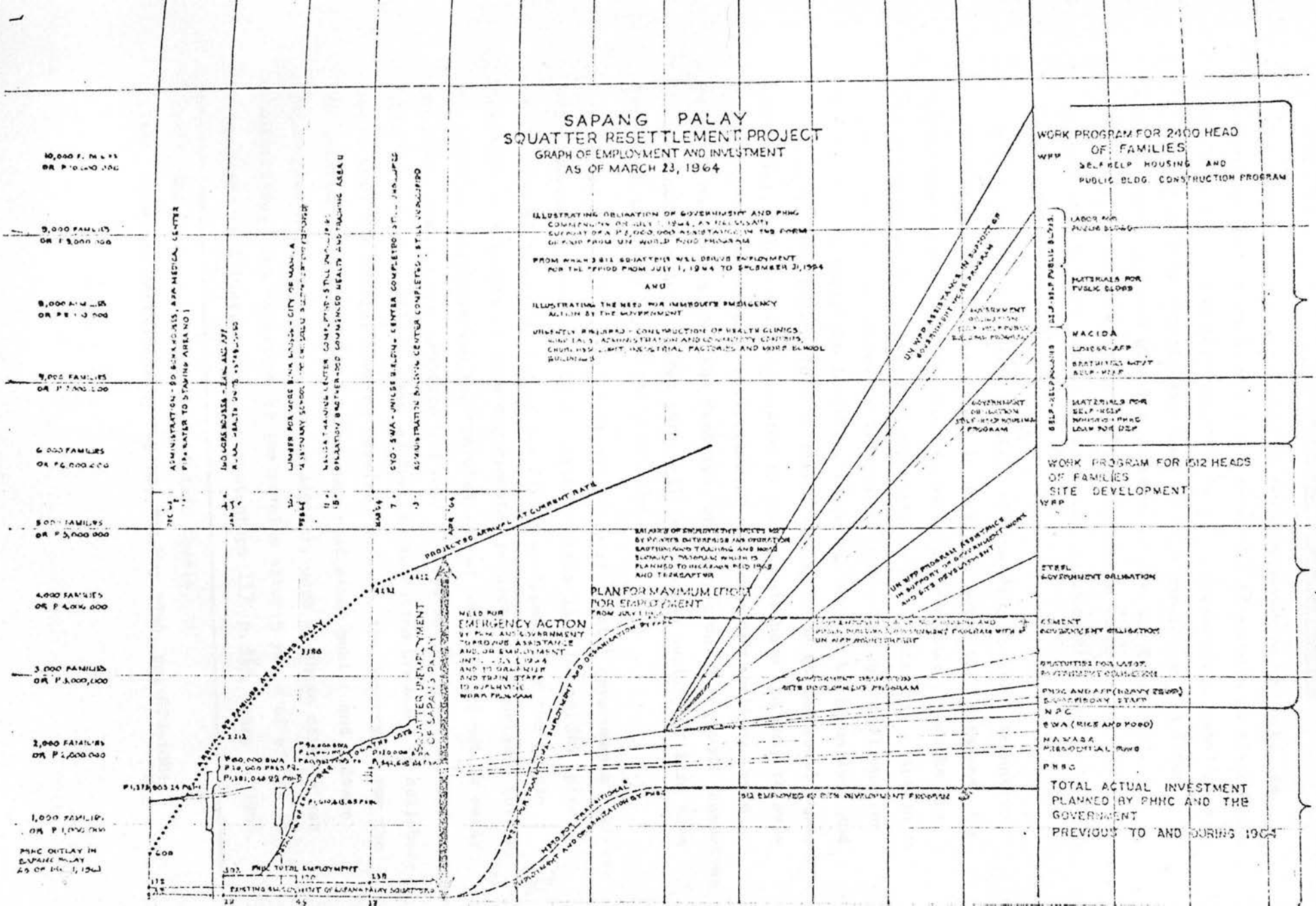


DIAGRAM No. 114.

4. Squatter Relocation New Communities in Rio de Janeiro

The intention, and the policy of the Government of the U.K., in accepting an obligation to build new towns was to provide an alternative to the depressed urban circumstances in which thousands of families were living, and to help redistribute some of this population and industry;(117) as the Minister pointed out when introducing the New Towns Bill,

> "In many of these cases, the building of new towns is the only satisfactory method of providing accommodation for the overspill population".(118)

Once a government adopts a policy of providing better alternative accommodation for families living in depressed urban circumstances, the differences between the situation in one city from that in another is only a matter of the degree of complexity in implementation. Action by a government does not necessarily lead to better living conditions for the families in their new location, (whereby, because of incentives and environment, they become full citizens, adding value to the local economy each year). Some methods adopted by governments have led only to substituting one set of poor environmental standards for another; some policies have meant that the families, on relocation, have found themselves in a situation which is even more deficient in the quality of life than they were experiencing in the urban slum.

In Rio de Janeiro, both central and local (State) governments reviewed the 'favelado' problem in 1968; illustrations 115-116, pp. 364, give an indication of the condition of the living environment of the people involved. Attempts at some experimental projects for providing better alternative accommodation for "favelados" had been carried out as early as 1930; some of the projects had been carried out by voluntary and charitable organizations, such as the Sao Sebastiao Crusade, in collaboration with the Federal Housing Service (SERFHA), the Department for the Reclamation of State Slums, and a number of other public and private organizations. For one reason or another, each of these efforts was ineffective; the condition of the favelas after 5 years of effort in many cases is illustrated in the photograph 117 p. 365, taken in 1968.

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(117) See Chapter 7, Section 6 of this thesis.

(118) Hansard, Parliamentary Papers, 8th May 1946, pp.1072-1081.

DIAGRAM No. 115

DIAGRAM No. 116

ILLUSTRATION No. 115: Typical hillside favela, Catacumba, 1967.

ILLUSTRATION No. 116: Consolidation of the 'favela' settlement in Jacarezinho, 1967.

DIAGRAM No. 117

CONDITION OF PARTS OF THE FAVELA JACAREZINHO AFTER FIVE YEARS OF VOLUNTARY AND SELF - HELP EFFORT TO PROVIDE AN INFRASTRUCTURE

(Photograph taken in 1967)

In 1962, another effort had been made to treat the problem in some depth, and the State Department of Social Services sponsored work to improve the health conditions in some of the 'favelas' and shanty-towns. At the same time, efforts were made to carry out a programme of low-cost housing to accommodate the 'favelados'. Housing developments such as Villa Esperanca, Villa Allianca and Villa Kennedy (the former and latter of which are illustrated in Diagrams 118 and 119, p. 367), were situated far from the employment centres, the latter some 40 kilometres from the centre of the city, and too far distant for daily journey to work. These were housing projects, in the literal sense, in that no provision had been made for employment in or near the community.

The policy for eradicating the 'favelas' at that time was guided by the idea of changing the social status of the slum-dwellers through total elimination of the 'favelas', and moving their inhabitants to low income housing projects far removed from the city; land for such resettlement projects was deemed to be too expensive nearer the city.

By 1968, the Federal Government and the State Governments jointly recognized that the slum problem of Rio de Janeiro had grown to such an extent that it could never be solved by the state governments alone. The problem, in fact, extended over the entire country, and part of the problem of the State of Rio de Janeiro originated from regions outside the State.

The Government recognized that any measures adopted in the State of Guanabara,[119] would require complementary action by the municipalities and counties bordering on the metropolitan area of Greater Rio.

Any control of migrants moving toward Greater Rio could be effected only by the federal government, and not by the state governments alone:-

> "It would be possible to solve the problem in practical terms, only through a joint effort on the part of the federal government, the state governments, private agencies and the slum-dwellers themselves."[120]

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(119) A large part, (approximately 3.5 million (1970))of the population of Greater Rio de Janeiro lived in the State of Guanabara, whilst the remainder, (approximately 1.5 million (1970)) lived in the adjoining State of Rio de Janeiro.

(120) Report by the Ministerio de Interior and Banco National da Habitagao, 1968, p.76 published in 1971. CHISAM: (Coordenagao de Habitagao de Interesee Social de Area Metropolitana do Grande Rio).

DIAGRAM No. 118

SQUATTER RELOCATION PROJECT AT VILLA KENNEDY, 40km. from RIO
Project constructed in 1962

DIAGRAM No. 119

SQUATTER REHOUSING AT VILLA ESPERANCA,
SITUATED ON THE FRINGE OF THE BUILT-UP AREA OF RIO,
NEAR GUANABARA BAY

The initial study carried out by the Ministry of Interior into the slum-squatter problem of Rio de Janeiro in 1968 revealed that there were 110 public and private organizations engaged in housing, each of them with different policies, ideas and practices. While some believed in social welfare assistance through gifts, clothes and food, others sought the elimination of the 'favelas' at all costs and by any means.

Millions of cruzeiros of public and slum-dwellers' money were being spent (and wasted) in unplanned, confused and badly directed ventures.

The Minister decided that what was lacking was an instrument for the coordination of the different existing agencies, which could delegate tasks and decentralize the execution, and which could have its own operational fund. It was decided that the best way of reaching the desired objectives would be through a Ministerial Agency, which was given statutory powers to coordinate the agencies of the federal government, the two state governments, and any private organizations which were involved in the 'favela problem', and also have powers to act directly in any programme, as it deemed necessary.

On May 3, 1968, the President of the Republic signed Decree No.62.654, which authorized the Minister of Interior to create an agency which would be responsible for the "Coordination of Housing in the Social Interest of the Metropolitan Area of Greater Rio" (CHISAM).

Similar characteristics of age structure, and income, prevailed in the 'favelas' of Rio de Janeiro, as those which were found in the squatter colonies of Manila.

Detailed surveys were carried out in 1969 in 30 'favelas', (i.e. approximately 10% of the total); 49% of the population in these favelas was under 20 years of age.

The average size of family to be accommodated was 4.6 persons; 32% of the families were only 3 in number, the remainder varying in number, with many families having 8 or 9 persons in the one family.

The number of sub-standard dwellings in the metropolitan area of Greater Rio was estimated in 1969 at about 200,000 shacks inhabited by 1,000,000 people; to substitute these shacks by minimal standard low-cost homes would require an investment of the equivalent of U.S. $350,000,000, (or £136,000,000). Adding the resources necessary for

water supply, sewerage systems, power and lighting, in addition to the value of the land and the operating costs, the total investment needed would be approximately £340 million to meet the problem of that time.

The population increase of the low-income families in Greater Rio at that time was estimated at 7% per annum. Allowing an average of 5 persons per dwelling unit, an annual construction rate of 14,000 new dwellings would have been needed to meet the annual increase in the slum-squatter population. The average cost of a house for relocating the families was estimated in 1968 to be the equivalent of approximately £600. The annual investment required to provide for the increase in the 'squatter' families in Greater Rio would be the equivalent of £8,400,000.

By September 1968, the financial resources of the National Housing Bank had increased to the equivalent of some £150 million, and based on the trends of the rate of increase of its capitalization, it was anticipated that by September 1969 the capital resources available would be doubled, i.e. the equivalent of £300 million.

The National Housing Bank (B.N.H.), which was capitalized through the F.G.T.S., provided the financial system which the Government could use to meet the housing and urban development needs of the whole country. Little was available from the central government budget for this purpose.(121)

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(121) For an elaboration of the circumstances prevailing in Brazil at the time, see Juppenlatz, M., 'Brazil - Urban Planning as a Function of National Government', RTPI Journal, Feb. 1972.

In brief, this financial system had its origin in 1966, when the Government and B.N.H. formulated a new labour law, as an alternative to the existing law which made provision for indemnity for employees against unemployment. Under the new law, a new fund was to be established known as the Fundo de Guarantia de Tempo de Servico (F.G.T.S.), which consolidated (i) the employer's tax contribution at 5% of the pay-rolls (to be used in general expenses), and (ii) 3% of the monthly pay-roll, which was to constitute a fund for investment. For those employees who chose indemnity under F.G.T.S., their account was protected in their own personal name by the Central Bank; for an employee who preferred to remain with the former labour law, the employer held his or her account in trust until the 10th year, when it could become effective.

The financial resources of F.G.T.S. were made available for B.N.H. to use for 'housing investment'. This began to take effect in 1967, and as the 'fund' increased, funds were available for investment into Integrated Urban and Local Area Planning, Sanitation (provision of water supply, sewerage and control of pollution), training in the building industry for workers, research and development, training of technical personnel, activating industries for building materials, and building construction.(122)

The combined use of the B.N.H. investment in housing and the urban infra-structure, with the investment from national government in the national infra-structure, brought into a cohesive whole, the policy for encouraging the distribution of settlement and human resources with the areas of best settlement capability, and permitted private enterprise and the money market to participate effectively in the growth process of the nation.

The Minister was able to call on the National Housing Bank to set up an investment fund, (or revolving fund), which could be used by CHISAM to undertake a programme of rehousing (or resettling) the families of Greater Rio, who were living in unhygenic, depressed urban areas. Additional sums could be made available by the governments of the States of Guanabara and Rio de Janeiro.

Surveys made in 1964, showed that 23% of the slums in Greater Rio were located on lands owned by the federal government, 27% on lands owned by the state governments, and 44% on privately owned lands. The ownership of the remaining 6% was confused or unknown.

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(122) With investments exceeding the equivalent of £600 million in 1970, and an annual budget approximating to £400 million, the B.N.H. had become the second largest Bank in Brazil, and contributed significantly to strengthening and stabilizing the economy. The re-activation of the construction industry had a cumulative effect, and it soon became a leading sector in the renewal of the economic development process. During the period 1966-70, inflation was gradually restrained. By 1970, the B.N.H. had accumulated sufficient investment capital from internal sources from which over 700,000 low income dwellings had been constructed. New water supply and sanitation systems had been installed in more than 1000 municipalities, and more than 400 towns had an Integrated Development Plan in the course of preparation. By 1970 the federal tax collections had increased from Cr. 12 per person to Cr. 170 per person, and the rate of inflation, as of that year, was down to 16% per annum. The rate of growth of gross domestic product in real value was 9% per annum; see R. da Costa Vaz: 'Tax Incentives in Brazil - sharing the responsibility for development', 1971, B.N.H.

On May 14th, 1968, decree 62.698 transferred all this land to the National Housing Bank for the purposes of substituting the urban slum squatter shacks with hygenic low income houses.

Approximately 1,100 hectares of land were made available to the B.N.H., but the condition was laid down by Government that its value should be no more than 12% of the value of the dwellings to be built; this was calculated so as to bring the land cost within the repayment capacity of the people involved, and at the same time, provide for the compensation which the federal government and the National Pensions Institute would expect for the land.

A superficial analysis showed that the building materials industry could meet the demand which was expected from such a programme. The National Housing Bank's programme for financing construction materials would help finance industries to increase their production capacity.

It was estimated that the labour needed was some 100,000 unskilled workmen, which would contribute to the Government's policy of providing more employment opportunity, and 8% of their salaries would be returned to further capitalize B.N.H. through the F.G.T.S.

Cost limits for the houses, for calculating amortization capacity, and limiting specifications of construction, took into account those of the squatter families, who were to be transferred, who already had incomes from regular employment, those whose earning capacity could increase with some education and training, (and therefore could be given temporary accommodation), and those who were destitute, and would need to be supported by the Department of Social Services; credit was available for those families who could purchase a lot for the purposes of building their own house.

In the implementation of the programme, care was taken to present it to the slum-squatter dwellers as an option, or a better alternative, which would permit them to become owners of a dignified home in another community in another part of the city, in which they would retain their old social groupings and associations.

The CHISAM set a goal of providing a better alternative for 200,000 persons from the 'favelas' over a 3 year period, and set about the task of inviting the collaboration of all agencies which had previously been involved in the 'favela' problem.

The ultimate objectives of CHISAM, (as it was with the British New Towns), was that the rehousing programme should go beyond slum clearance and reconstruction, and should be the instrument for the social integration of these families into the urban society, though at that time the deliberate involvement of the private industrial sector to provide employment could not be envisaged, because of the absence of a positive programme in which the industrialists could see their role.

The objectives were outlined as follows:-(123)

(a) to help low-income families acquire their own homes and develop a sense of ownership in them as well as confidence in the authorities;

(b) take them out of their former depressed surroundings and give them new horizons and opportunities;

(c) reclaim them socially and economically so that they can take part in a properly constituted society.

The total objective of trying to accommodate 200,000 former slum-dwellers in 3 years was at least a quantitative target at which all the combined resources could aim; the relocation policy is illustrated graphically in Diagram 120, p.373.

Over the 3 year period, June 1968 to June 1971, forty-nine (49) new residential complexes accommodating 35,157 families (or 125,785 persons) had been completed, two hundred and thirty (230) hectares of land had been developed, and the equivalent of some £32 million had been invested, all on a bankability system for amortization; 17% of the occupants had a family income of less than one minimum salary,(124) 56% had a family income between 1 and 3 minimum salaries, and 27% had incomes above 3 minimum salaries.

The programme had been financed from the investment (or revolving) fund made available by

(i) The National Housing Bank, which made available the approx. equiv. of £30 million. (85%)

(ii) The State Government of Guanabara with the approx. equiv. of £1.5 million (3.5%)

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(123) Annual Report of CHISAM, P.101, 1971.

(124) In 1970, one minimum salary was the approximate equivalent of £20 per month.

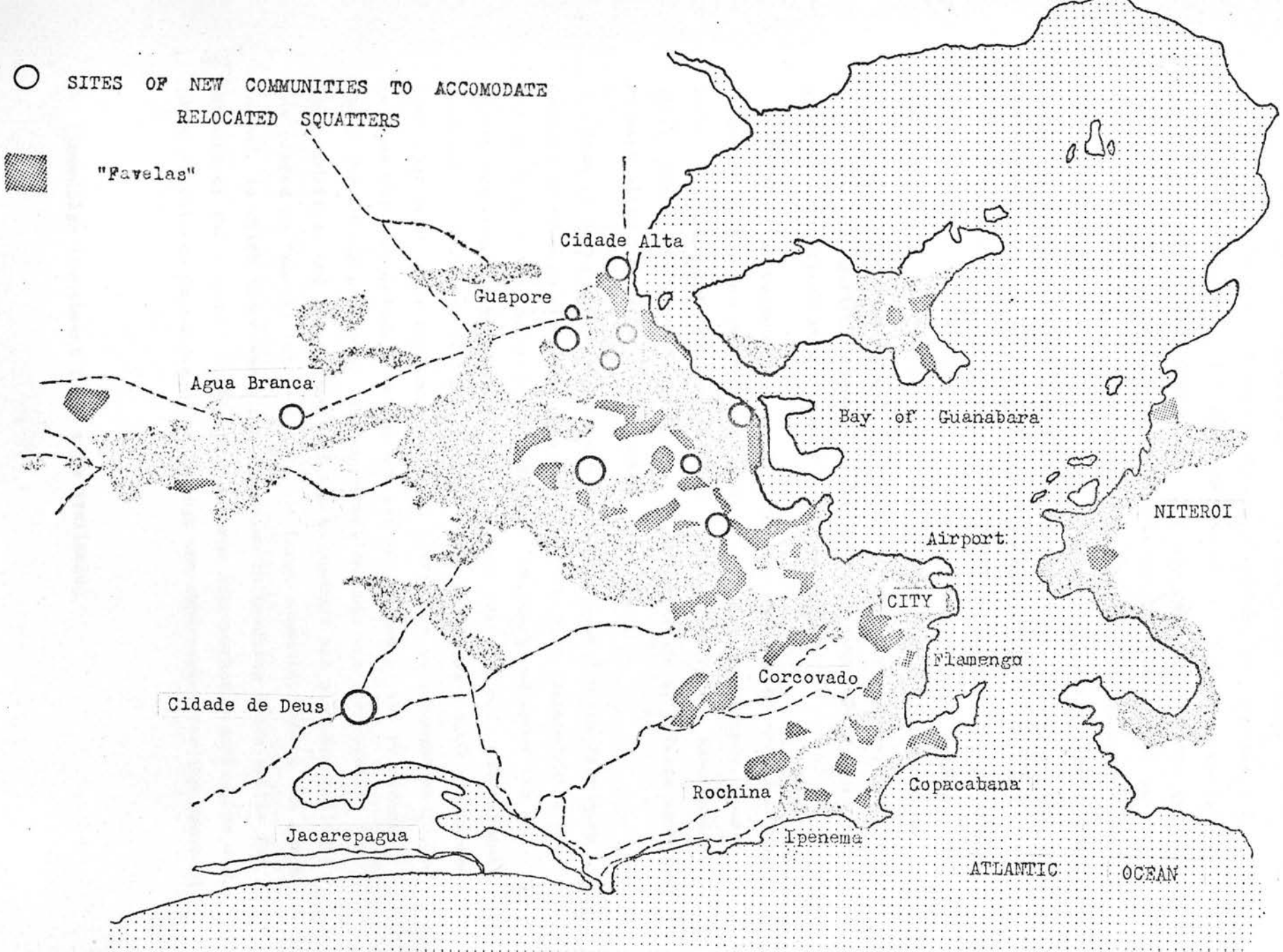


DIAGRAM No. 120

(iii) The State Government of Rio de Janeiro,
with approx. equiv. of £700,000 (2.3%)

(iv) The Value of Government land transferred,
which was the approx. equiv. of £3.2 million (9.2%)

i.e. the equivalent of approximately £32.2 million‡ over the three year period to accommodate 35,157 families, (which constituted an estimated 28.1% of the number of slum-squatter families registered in the 1970 census for Greater Rio). What is significant is that most of the new communities were planned, constructed, occupied and the management organized within the three year period, although there already existed a large reserve of management capability in this field, which was used by the Government. In investment terms, the outlay per family was £916, (or, as the relocated families averaged 5 to a household, approximately £183 per person). Unlike the provision of loans from the Exchequer in the British new towns system, where the amortization period is 60 years at the prevailing bank rate of interest, the period of amortization for the houses and apartments under the CHISAM-BNH system was 20 years, at interest rates fixed at maximum of 4.5% per annum.

The above investment figures include only some of the social infrastructure in the new communities, such as schools, playgrounds, sports parks, religious centres, health posts, centres for sports associations etc.; these works were supplemented by various State or private agencies, or were already existing in the area.

Some of these new communities were located some 8 miles from main centres of employment. One example, Cidade de Deus, demonstrates the way in which a low income housing project, as conceived under the old system,was completely restructured to provide recreational, educational, commercial facilities for the families being relocated; 4000 low income dwellings were under construction, i.e. sufficient to accommodate 20,000 persons when completed, when the new law was signed by the President. Under the CHISAM programme, the construction rate was accelerated, the plan modified, and the emphasis of the management and planning criteria was placed on "social integration". A large community centre was established, in which there was a concentration in teaching trade skills for members of the resident families. A large supermarket organization was given incentives to construct and manage the supermarket for the community;

‡ (immediate investment funds made available)

a cinema, several club buildings, a medical service post, several schools (primary and secondary), and churches, were constructed, often financed by the agencies responsible for their management.

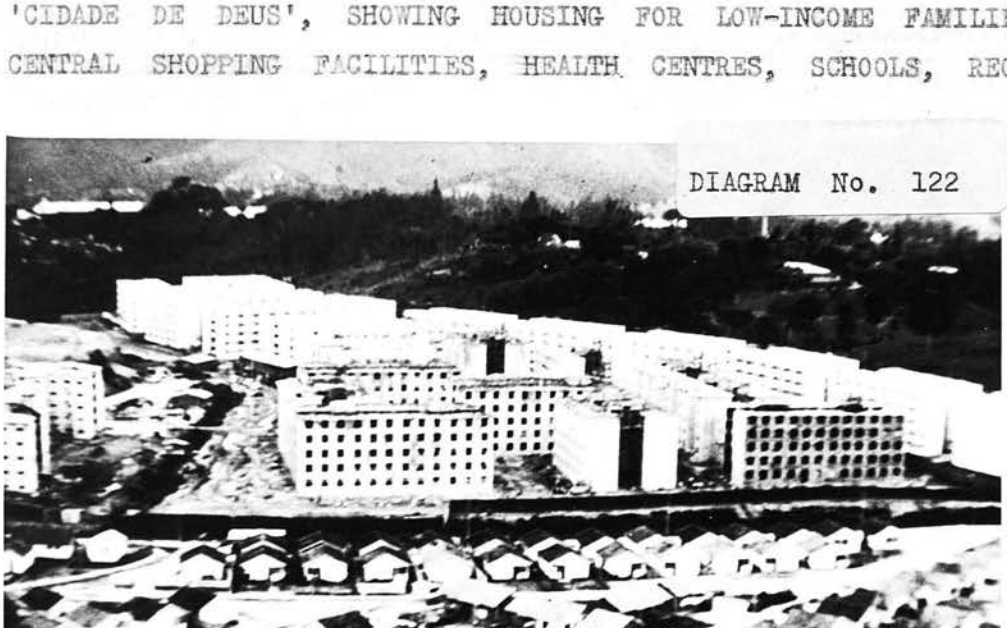
Though the site was only 15-20 minutes bus-time to the main industrial centre of Rio, the incentives, by way of trained labour, all other services, direct access to the industrial section and the markets, were recognized by both CHISAM and private industrial entrepreneurs.

Within months of the families taking up residence, CHISAM and the State Government's Industrial Development Company purchased additional land adjoining the housing project, and prepared the site as a "trading estate", with some factory buildings available for lease; negotiations commenced for the establishment of several industrial undertakings.

The rate of increase of prosperity among the people and the community generally can be gauged by the fact that at the end of the three year period, several hundred families had increased their family incomes to the extent of requesting the B.N.H. to build larger apartment buildings which they could occupy, rather than the smaller low income dwellings which had been provided for them, initially. The illustrations of this project, Diagrams 121 and 124, pp.376-7 , give an indication of the general character of the development; the multi-storey apartment buildings were being built to satisfy the demand as the family incomes increased. The air photograph, Diagram 123, shows the accommodation which was provided for destitute families, mostly women with several children whose husbands had abandoned them, or were, for other reasons, impoverished.

Though the urban design standards of these "new towns for low income families" are very different from those adopted in the U.K. for new towns, it does demonstrate that planned communities in the metropolitan spatial distribution of settlement, in which industrial enterprize and other employment opportunities are being provided, can be successfully undertaken in developing countries. The rate of providing an urban environment which is far superior to their unplanned and unhygenic 'favelas', can be accelerated, and the rate at which the former 'favelados' can be integrated as citizens into the urbanization process, and contribute to the economic growth process of the society, can be accelerated, also.

AERIAL VIEW OF THE CENTRAL AREA OF THE NEW COMMUNITY OF 'CIDADE DE DEUS', SHOWING HOUSING FOR LOW-INCOME FAMILIES, CENTRAL SHOPPING FACILITIES, HEALTH CENTRES, SCHOOLS, RECREATION AREAS.



APARTMENTS CONSTRUCTED FOR FAMILIES WHOSE INCOMES HAD INCREASED AFTER SETTLING INTO 'CIDADE DE DEUS', AND OBTAINING FULL EMPLOYMENT.

DIAGRAM No. 124

ILLUS. 124: TYPICAL DWELLING FOR A LOW-INCOME FAMILY (income - one minimum salary)

DIAGRAM No. 123

ILLUS. 123: ACCOMMODATION PROVIDED IN CIDADE DE DEUS FOR DESTITUTE FAMILIES

CHAPTER 11 - SUMMARY AND CONCLUSIONS as to the relevance of

(i) the Urbanization Process of Britain, and

(ii) the British New Towns Performance characteristics,

to the URBANIZATION PROBLEM OF DEVELOPING COUNTRIES.

1. The Urbanization Process

The conclusion which one can draw from the evidence of population increase in the world today, is that many of the member countries of the U.N., which are included in the developing countries category, still have a large proportion of their population living in rural areas, and that over the past three decades, the tendency has been for an increasing number of rural dwellers to show a preference for, and shift to, the urban centres. There is no indication that this tendency is likely to change over the forthcoming decades.

In the concentration of people in the urban centres, in contrast to the pattern of population distribution in rural areas, there is the opportunity for the dynamism of societal interaction, which perpetually activates individual initiative and group enterprize, and by which organized society is stimulated to provide the means for its own development, i.e., it organizes itself to control and direct its resources to meet the economic problems of growth.(126)

As indicated in Chapter 2,* the population of the world is now increasing at a rate unknown previously in the world's history. It is not so much an increase in fertility, (although an increase in the birth rate has been registered in some places,) but more a lessening of the mortality rate, and a tendency towards an increasing life span in many of the developing countries of the world.(127)

NOTE: * An asterisk beside a page, section, or chapter number in this summary refers to the respective page, section, or chapter of this thesis.

(126) The 'economic problems of growth' are very much the same, irrespective of the basic pattern of administrative organisation. They are all concerned with the application of the scientific method, the accumulation of capital, and increasingly, a more conscious control of economic forces by the State to eliminate economic swings or fluctuations, and to promote further growth.

(127) Kingsley Davis: "The Urbanization of Human Population" Scientific American, Sept. 1965, pp.41-53, and
Juppenlatz, M: "Cities in Transformation", Univ. of Q'ld. Press 1970, p.160.

Professor Thijse points out (p.35)* that,
in 1800 A.D., 22 million of the world population were urbanized;
in 1950 A.D., 500 million, or 20% of total world population were urbanized, and, on present trends, we can expect that,
in 2000 A.D., 4,000 million, or 66% of total, will be living, or endeavouring to live, in urban centres which have a population in excess of 20,000, all adding to, or endeavouring to participate in, the urbanization process.

Apart from the many conflicting schools of thought on just what constitutes the urbanization process, the U.N. points out that it

(a) is linked to social development, (p.10)*

(b) is expected to be a quite specific dynamic action for change, aimed at goals of industrial development, (p.10)*

(c) means the steady shift of population from rural to urban areas, and the processes of social and economic change associated with that shift, (p.10)*

(d) gives a new importance to human settlements in the process of development, which is transforming the setting of human life on this planet. (p.10)*

Lampard defines it as a way of ordering a population in such a way as to attain a certain level of subsistence and security in a given environment. (p.7)*

The conclusion which is drawn from this study is that the process of urbanizing a country, irrespective of its political or administrative organization, is dependent upon the way in which the 'urban system' of that country functions.

A 'system' used in this context, is derived from Ludwig von Bertalanffy's General System Theory,(128) in which a 'system' can be defined as a complex of elements standing in interaction.

The level of efficiency of an 'urban system', which is made up of several 'systems', is also dependent upon the extent to which each system has been properly institutionalized by society at both the national and the local urban level; this is complimentary to the way in which the administrative system of the country has been institutionalized at national level, by Ministries or Departments.

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(128) Bertalanffy, Ludwig Von, 'Theory of open systems in physics and biology', Science, Vol.III, 1950, pp.23-29.

The urban system, exemplified by towns and cities, is the extent to which the several 'systems' at the urban level interact, and are interdependent, with each other, i.e., an 'urban system' is, in reality, a 'system of systems'.

In the highly evolved urbanization process in Britain, one can identify at least ten such systems operating at the urban societal level, as follows:-

1. the system of productivity (occupational sectors and the value of product),
2. the system of planning and control of land use,
3. the system for the control and construction of the built urban environment,
4. the system of marketing and trading,
5. the system of transport and communication,
6. the system of finance, capital accumulation and savings,
7. the system of local government and administration,
8. the system of central government and administration,
9. the system of labour, incomes and spending,
10. the system of providing for levels of living and welfare.

Each system operates at both national and urban level, each is recognizable in the respective level as being managed by a group of people who can be effective in the decision-making process in that system; the efficiency of some of the systems is regulated by the extent to which science and technology have been applied in combination with the human elements of labour and management. The process by which each system operates, its functioning through an arrangement of sub-systems, can be quantified, monitored, and in some cases, simulated in a mathematical model; with appropriate programmes, it could be used to simulate the changes which would result from decisions made to change selected parts of the system. The feasibility of the use of the model is demonstrated in Annex I.*

Within the context of an 'urban system', by which each interacting element can be quantified, one can then examine the problem posed by the likely increase of the urban population of the world over the next 30 years; the World Bank estimates that the urban population for urban communities of all sizes for its member countries in 1970 was approximately

425 million, and this is likely to increase by a further 824 million, i.e., to 1249 million over the 30 year period to 2000 A.D. (p.48)*

Theoretically, this large number of people in urban conglomerates should provide the resources, and the expanded market, through which, (with the judicious use of an "urban system" in the urbanization process), the constraints of the cycle of poverty can be broken, and the society can progress to higher levels of civilization.

But, after several meetings to review the urbanization problem in developing countries, the U.N. warns us (p.4)* that,

(i) the existing political and administrative machinery in developing countries is inappropriate to cope with the problems of urbanization,

(ii) that governments do not have the capacity to propose solutions to the urbanization problem because of its complexity,

(iii) the nature of the problem is unprecedented,

(iv) it is difficult to transfer the benefit of experience from one country to another, and

(v) the implementation of the only types of planning solutions being proposed is very expensive.

The urbanization problem in developing countries is aggravated by the absence of a universally agreed definition of the term 'urbanization', and the absence of an interpretative model of the 'urban system' by which all the components can be quantitatively analysed, and from which planned programmes of action can be drawn up for implementation by the society. The word 'urbanization', like 'city', "has long escaped scholarly scrutiny", (p.9)*. The causes of the urbanization problem in developing countries have been identified by the U.N.(129) as follows:-

1. rural poverty moving into the cities,
2. deterioration of employment conditions,
3. deterioration of health,
4. deterioration of housing and community facilities,
5. nutrition difficulties,
6. problem of social disorganization.

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(129) U.N., "Urbanization - development policies and planning", International Social Development Review, No.1, N.Y., 1968, p.4.

However, recognizing the causes of the problem is quite different from recognizing the positive interaction of elements which go to make an urbanization process work efficiently. It is the latter which is deserving of high priority in further research work.

The evidence which has been collated and analysed in this thesis makes it apparent that 'urbanization' is a symptom of the inevitable change which is taking place in human society in the latter part of the 20th century; as Leonard Reissman points out (130) :-

"Urbanization is a social change on a vast scale; it means deep irrevocable changes that alter all sectors of a society - apparently the process is irrevocable once begun. The impetus of urbanization upon a society is that society gives way to urban institutions, urban values, and urban demands." These changes are manifesting themselves in the urbanization problems of the countries of the developing world today. But the problems which these countries are facing are different only in some respects from those which the industrially urbanized 'developed countries' had to overcome in their own urbanization process. The differences lie in the scale of the number of human beings involved, and the vastly increased quantities of produce needed for their subsistence, the sophistication of science and technology which is available to them in the 20th century, and the high rate of increase in urban population.

Otherwise, the challenges and problems posed by the transfer of a society from an agrarian economy, one based on land-ownership, production from the land, and trading, to one based on an urban type economy, are similar for all societies.

In defining urbanization, this study draws the conclusion that:-

(i) theoretically, urbanization is the consequence of an aspiration of human society for a perpetual improvement in its personal and collective environmental comfort to attain higher levels of civilization, which, in our world of the present, can best be achieved by its own collective effort in towns and cities, i.e. urban centres;

(ii) academically, it is the most significant component in societal development in our present world, and as such, can be identified, diagnosed, analysed and studied as the interaction and interdependence of an 'urban system of systems', all of which,

(130) Reissman, Leonard; The Urban Process, Cities in Industrial Societies, Glencoe, Illinois, 1964, p. 154.

interacting on each other in a quantitative way, go to make up a total urban system. It is part of the syndrome of society, city, and civilization. Technically, it should be possible to construct a simulation model of the urbanization process, firstly in static form at local level, and then in dynamic form; this can be extended to the construction of a model of the urban system at national level;

(iii) semantically, its meaning is very much the same today as when the word 'urban' was accepted in 1642 to mean, 'characteristic of a town or city, or urbane, having the polish or refinement regarded as characteristic of a town or city, courteous and at ease in society'.

As this study has already identified, there are already several quite differing approaches to the methods of studying and rationalizing 'urbanization'. Apart from the interpretations given by U.N., as listed previously, there are three quite separate concepts on the dynamics of the growth pattern of urban settlements(p.16)*:-

(i) the dispersionist school, which holds that the 'synergizing' function of a city is now unnecessary, because the high level of management and technology, rapid communication and transit systems, etc., does away with the reason for the existence of the city; the whole nation can be unified in its development without cities, because contemporary knowledge, and the national culture, is now the significant factor in societal development;

(ii) the concentrationist school, which believes that it is only in cities that the organizational, the institutional, and management systems, with the capability for economic growth, and for meeting the urbanization problem, can be found, and that therefore the shift of rural population to the existing urban centres should be encouraged;

(iii) the city-region integration school, which contends that historical example of urbanization demonstrates that human settlements operate most efficiently in a hierarchy of settlement which integrates the primate city with a settlement

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(130) Part 1, Chapter 1, of this thesis.

> pattern based on rural-urban interdependence. This infers a culturally recognized institutional authority for the region, which, very likely, would be based on the city, and would be responsible for the control of the urbanization process in that region.

There are those who approach the problem from the ideological viewpoint, such as Fanon, Frank, and Lin Piao, that the cities of the Third World are capitalist structures decaying because of the decay of capitalism; having passed through the slave-owning stage, the feudal stage, the capitalist stage, it is contended that such cities will now pass into the socialist city stage. (p.29)*

On another approach, Hirschman and Freidman contend that the only hope for developing countries lies in those societies using their cities to develop economic strength, because, as capitalist structures it is only the cities which have the capacity for economic growth. Their hypothesis is that the use of the city in this way is the method by which present-day developed countries have arrived at their present state of economic strength. (p.30)*

Dr. McGee sees the city only as a symptom of a process operating at the societal level, and any diagnosis of the role (or function) of a city must be in the context of the state of under-development which exists in that country. (p.30)*

Each of these separate approaches to the problem, along with those concepts arrived at by the U.N. are valid somewhere in the study of the urbanization process, but until the process can be analysed quantitatively, the above must remain untested hypotheses, acting somewhere, but not definitely identified as to where, in the total 'urban system' by which the present urbanization process in developing countries leads to higher levels of civilization, or alternatively, 'puts whole societies into a terminal crisis of social and economic disintegration'. (p.5)*

2. The Relevance of the Urbanization Process of Britain to Developing Countries

The value of a study of the urbanization process of Britain in relation to that of developing countries is that one can trace the way in which 'each of the essential systems' which go to make up 'a total urban system' have evolved, and have become institutionalized, either by the private sector or the public sector, or by a combination of both. For the most part, the various systems have evolved in response, or as a stimulus, to the challenge before the society at any one time.

Many of the towns and cities in the developing countries are today in a state of under-development (using Dr McGee's hypothesis and the evidence presented in the case study of the Philippines, Chapter 3*) which resembles, somewhat, the state of under-development in which many British towns have found themselves at some point in time during the past 1000 years of its urbanization process.

By measuring the differences, (i.e., the deficiencies of the urban system of systems) existing in the towns and cities of a developing country, and relating these differences to the resources available to the country and the towns, a planned programme of urbanization towards prescribed levels of urbanization can be established, statutorily adopted and implemented, if the several urban systems have been adequately institutionalized.

Similarly, against the British example of the urbanization process during the past 1000 years, the hypothesis of the way in which the city changes, and the circumstances under which it has changed, from the slave-owning (Roman or Norman), feudal (Plantagenet), capitalist (Victorian), to the socialist city, can be tested. The hypothesis of Hirschman and Freidman, that the cities have the capacity for economic growth, and as such provide the means of strengthening the national economy, and making it less dependent on an agrarian economy, can be studied.

It is possible to study, in greater depth, (in the same analytical model of the evolution of the urban system of Britain), the hypothesis of the dispersionist school, the concentrationist school, and the city-region integration school, within the context of national growth and urban development (as it is related to the growth of settlements in the

natural environment), and identify when, in the time scale of societal development, and under what circumstances, each has been demonstrated to be valid and effective.

The urbanization process in Britain has not been without human pain and suffering, and much poverty in the urban areas for a large proportion of the increasing population. The most significant achievement in breaking the constraints of the cycle of poverty, as described by Dr Ragnar Nurske (p.55)*, began in the 18th century, when the country began to shift its economic base from agrarian to industrial processes. As indicated on Diagram 60 , p.197, the evolution of the urban system of the 19th century provided the means of breaking the constraints of the cycle of poverty, but it also left a heritage of suffering for many of the urban dwellers, a social debt which was subsequently adjusted in the 20th century.

The characteristics of the urbanization process of Britain are very relevant to the urbanization problems of the developing countries today, as we can plot the sequence of institution building, of the creation of systems, (mostly arising from a response to a demand imposed by the circumstances of the time), and the gradual involvement of government in the urbanization problem, until, in the mid-20th century, the government had sufficient income to intervene directly in the planned urbanization process of the country.

This is not to say that the developing countries will have to follow laboriously each sequence of the urbanization growth process of Britain, and go through the same personal hardships to attain a satisfactory urban structure, (and system), for their own countries, but the ingredients of the formula for a successful national urban system are there to be studied and applied, modified and adjusted to suit the circumstances prevailing in the particular countries.

Experiments and examples of an urban system in Britain date back 2000 years, to the Roman occupation, but the most satisfactory period of study is from the time when the country became unified under William the Conqueror, 1066 A.D., when law enforcement was introduced and all land was registered within a national system of land ownership.

In summary, the Domesday Survey of 1086 A.D. was a national survey of resources and people. The formation of the first merchant guild followed in 1088 A.D., and by 1295 A.D., 120 new towns had been planted

to expand trade, in an endeavour to expand the economy (or the King's Treasury); the administrative costs of the country at that time were mostly borne by the Church authorities. (p.138)*

Town planning was recognized then as being best carried out by the merchants, and the successful men of business, who were expected to know what was needed 'to make a town almost anew to the greatest profit of ourselves and of merchants'. (p.138)*

By 1300 A.D., towns were becoming centres of specialized skills, crafts and arts, with workshops growing up in these centres; markets were being established in the towns, with the approval of, and by a Charter from, the Crown.

Prosperity from the wool trade was increasing the local purchasing power, and this increased wealth provided a demand for more production from the craft skills of the towns, which began to expand their own market activities. (p.139)*

Professional merchants and craftsmen realized that they were better situated in a town, (i.e. a central place), to follow their specialization, and could see the advantages of the growth of towns. (p.139)* Estimates of population for Britain in the 14th century vary between 4 million and 7 million, with a very small percentage, probably less than 2% of total, living in towns.

The wars with France during this period increased the demand for more products, all needed to serve the King's Army, which meant an expanding market for those who owned the resources for production; the workshops in the towns benefited from the increased demand. (p.144)*

The shift of population from rural areas to urban centres began in the 14th century, not because of the attraction of the towns, or hopes for self-improvement, but because the subsistence farming people were being deprived of the use of their land and they had no alternative; the land was being 'enclosed' for the purpose of increasing wool production, to serve the markets on the continent. In many of the developing countries today, the people are being driven from the rural areas by 'poverty', and the town offers the only alternative for improving their circumstances.

The Guild merchants in the towns were able to provide employment for some of the poor rural in-migrants, but their market was limited, as was their capacity to provide for the poor new-comers.

By 1580, the guilds were no longer playing any significant part in assisting the urban poor in the towns. On the one hand, the urban poor had become too numerous, and on the other hand, the guild merchants had become the Borough Councillors, and were concerned mostly with safeguarding their own personal interests in their own town, though there are examples of Christian men of the guilds who provided institutions for helping the poor, in the form of hospitals and schools. The market was still limited; there was little in the way of a national infra-structure for expanding the marketing system; a journey from London to Newcastle would take 10 days.

Because of the introspective attitude of the Borough Councillors, new industries, which were emerging, many from the continent by invitation from the Crown, were establishing themselves outside the jurisdiction of the oligarchies.

London was becoming noticeably over-crowded, and as early as 1542, the City of London Merchants felt that the over-crowding, with an ever-growing number of poor, was frustrating the growth of their market and production. On these grounds, they proposed the construction of new towns on the 'escheated lands' of Ulster, to take the 'overspill' of craftsmen and labourers from London, and other places, and to extend their market area. A Charter from the Crown was provided in 1602 for some 23 new towns to be built in this way. There is little evidence available to assess the benefit which derived to the national economy by this new towns experiment. (p.156)*

By the end of the 16th century, the guild system was not proving favourable for capital accumulation. In their skills, and in their management of their own boroughs, there was little to equal the guild merchants, but their outlook was essentially municipal, protecting their own local interests.

With the urban poor increasing, and the guild system unable to make provision for them, a system had to be created which would provide for the expansion of the economy and provide change, which could make available employment for the urban poor.

The causes of poverty at the end of the 16th century were reckoned at the time to be: (p.162)*

(i) the rising prices,

(ii) the excess of population,

(iii) irregularity and scarcity of employment,

(iv) the increased spread of pasture (sheep) farming.

The national economy was based mostly on large land-holdings , agricultural production, and trading.

The educational system was extended, which, though it did not provide education for all, greatly extended the existing facilities.

The system which emerged in response to the challenge of poverty of the time, was that of merchant capitalism, with its complimentary domestic industry. The merchant capitalist was the middle man who broke down all ancient barriers.

The merchant capitalist was able to avoid, and defy, the power and influence of the borough guilds, by giving work out to the country, or to places outside the control of the guilds; he was able to evade the power of the monopolies and privileged companies, which were prevalent, and which were equally as restrictive on the continuous expansion of the economy as was the guild merchant system. Although the merchant capitalist committed excesses, he provided the means of expanding employment and production, of creating a competitive basis for production for the market, and permitted many of the population, who would not otherwise have been able, to gain employment and to participate in the economic growth process of the country. (p.162)*

The trade of banking, (with fixed rates of interest), which had already been established in Antwerp and Amsterdam, soon followed in the early 17th century.

The City of London had become the centre of initiative, government, and finance, and by the 17th century, was by far the largest city in Britain, with a population of 200,000. (p.163)*

But Tudor London, a city built by generations of carpenters and masons, a city of gables, mullioned windows, carved barge boards, corner posts and brackets, was a most unhygienic place; there were no concepts of civic design, such as were evident in the cities of Italy. (p.165)* Charles I decided that London should have a Roman facade, and a beginning was made in the construction of the Banqueting Hall, Whitehall. (p.165)*

The intervention of Cromwell gave a new meaning to the word 'urban', in that it was then used to mean "exercising authority or control, on or over a town or city". With the restoration of the Stuarts to the throne, Charles II continued, with Evelyn, Hooke and Wren, the wish of his father to bring Roman concepts of civic design to London. A layout plan for the City of London was in preparation when the Great Fire of 1666 devastated much of the City.

The people were not prepared to await the reconstruction programme envisaged by Charles II. The plan by Hooke had been accepted by the Lord Mayor and Alderman, but the people were not prepared to put their trust in officials in this planned reconstruction proposal. They demanded, and began, the rebuilding of their houses and their shops just as they had been before the fire.

However, from this experience, the Crown was able statutorily to introduce control of future buildings according to a building code, in which the Court of Fire Judges, and the recently recreated Commissioners for Paving and Sewers, were consulted. (p.166)*

Estimates by Gregory King of the annual national income for the end of the 17th century indicate a total of £48 million, with 40%, or £19.3 million, being derived from agriculture, forestry and mining. (p.194)* This meant that the average national income per capita for Britain in 1688 was £8.7. This can be compared with the average national income per capita for the three examples of developing countries in this study, which in 1970 ~~are~~ were £81.5 per person for Ghana, £85 per person for the Philippines, and £120.5 per person for Brazil. (p.334)* ±

The income to the government of Britain in 1688 was estimated to average £1.5 per person per annum.

By the early 18th century, in addition to a banking system, (with proper accounting of loans and fixed interest rates over fixed time periods, and credit held against some security), insurance against loss (especially through fire, for merchandise, and for merchant adventurers), was introduced. Small enough in scale compared with the present-day scale of operation, but significant at the time for a country with a population of 5 million, the largest city of which was 200,000.

± (The values, adjusted to the consumer price index of the pound in 1688, would be £14, £14.5, and £20.6, respectively.)

Real product was beginning to result from the use of the money in trading initiative, but the expansion of the economy was hampered by the absence of a transport and haulage system, which could expedite the movement of goods and merchandise. This then became recognized as an investment sector which would add real value to the total societal and production system; turn-pike roads were constructed, canals were built, new ports, with the allied industrial activity of shipbuilding, were established. These investments and enterprizes opened the way for expanding overseas trading and market activities, and this offered more opportunities for production and employment throughout the country. (p. 201)*

Metal product industries were added to the already established textile and clothing industries, and more manufacturing centres began to emerge on the location of the raw material, and ports.

The growth in the economy which resulted from this activity was achieved by private initiative, with the encouragement of the government, (which comprized mostly the representatives of the vested interests in the trade and financial sector), but there were those in Parliament who considered that the government, in the long-term national interest, had a role to play in the developmental process. Increasing output and production, trading and marketing, were considered by many Parliamentarians to be the province of private initiative, not for government, and yet there were many responsibilities for the health and well-being of the people in which the private sector would have little interest, but which were necessary, if the whole country was to progress. (p.175)*

The very challenge of the circumstances brought the considerations of learned gentlemen of the time, such as Dr Adam Smith, the Reverend Robert Malthus, Jeremy Bentham, David Ricardo, and John Mills, into publication, (pp.176/7)* and the principles of political economy were introduced.

Steam power was introduced and applied to the industrial process; it emerged in response to the demand for a more efficient source of energy over the water power, manpower or horsepower, i.e. the natural sources which were available at the time.

Markets abroad were there to participate in, transport and finance systems were there to support the expansion of the economic growth process; the steam power provided the means to increase production in the metal,

textile and other industries. The objective of the age was expansion of the economy; labour in the towns, in the form of the abundant urban poor, was plentiful and expendable. The people of the towns wanted employment of any kind, providing it assisted them to participate in the urban system. There was no alternative for employment in the country areas, i.e. the large landed estates, which were used for sheep grazing, or in the agricultural sector, which always had more labour available than it needed. Alternatives, of a pioneering and speculative kind, were available through migration to the colonies. At the time, the living conditions of the workers and of the poor were the responsibility of the individuals, or charitable institutions, but not government. (p.176)*

But the examples set by the Improvement Commissioners of Westminster in the 18th century showed the way for town improvement for other towns, cities and boroughs, and provision was made in law for boroughs to establish their own Improvement Boards for carrying out such improvements in their jurisdictional areas as they deemed necessary. (p.181)*

John Summerson, in reviewing the role of the Improvement Boards, considers them as follows:-

> "At the lowest level, it might be said that improvement occurred whenever a sufficient number of influential men were so inconvenienced as to be induced to act in accordance with the public spirit with which they believed themselves endowed. Their own interest, and that of the public, seen to coincide, they set about obtaining from Parliament powers to carry an improvement into effect with minimum expense to themselves." (p.182)*

There is another view of the achievements of the powers made available to the Improvement Boards, and the Edinburgh Corporation can be used as an example. On a report from one of their members, they were cognizant of the slum areas, dilapidated buildings, and the need for urban improvement. By 1766, the Corporation called for designs for a new town, and proceeded with a work of urban improvement which stands today as a fine example of a Municipal Corporation providing a high urban living standard for some of its community.

The essential components of a system for expanding economic and urban growth were being assembled in the 18th century, and permitted the 'industrialized urban' system to 'take-off' in the 19th century, as indicated in Diagram 60 , p.197.

The government was not in a financial position to bear, or support, the social costs of this urban expansion; as indicated on Diagram 141, this was not possible until the end of the century. But the construction of a combined national infra-structure and built urban system, in itself, became both a market and a demand, and the basis was assured for a continuation of the urbanization process. The money invested in both the railway system and the town building and urban public health system was adding real value of product to the benefit of the total society, despite the fact that there were always numbers of urban poor who could not participate in, and benefit from, the urban society, at that time.

The infra-structure and town building were essential support investments for the total economic growth process; what is significant is that over the 19th century, the rate of increase in urban population approximately matched the rate of increase (in real terms related to the purchasing power of the pound sterling in 1688) of the national income, i.e. at approximately 3% per annum.

In the first three decades of the 20th century, despite the foundations of an urban system established during the 19th century, there was an economic collapse, which caused the government to study seriously methods of sustaining a strong economic system.

By 1940, the government recognized the need for it to intervene in the industrial growth process, which meant providing support in the form of housing and all the urban facilities which are normally needed to support industry. This also meant the direction of the planned land use for both town and country, the regulation of land values in the context of national planning of land use, and the provision of compensation for those deprived of the use of their land.

By 1944, a Ministry of Town and Country Planning had been created; by 1946, a New Towns Act had been passed which made provision for the government to undertake the planning, construction and management of New Towns, and then the 1947 Town and Country Planning Act made it obligatory for all local authorities, among other things, to prepare land use plans for their jurisdictional areas.

It may be consequent upon, or coincidental with, the government's intervention in the planned urban system for the country, but national

income then began to increase at an average rate of 6% per annum, without a corresponding increase in the urban population.

The historical experience of the urbanization process of Britain demonstrates that it is not the towns and cities, per se, which have the capacity for the economic growth necessary to support a large urban population, nor does the construction of new towns, in themselves contribute to economic growth, but rather, economic growth is a result of the "urban system of systems" which has been established, and in which the society as a whole, and the government in particular, consciously use the total urban system for its own economic development and the improvement of the quality of life in the urban areas.

It was not until the country was able to break the constraints of the cycle of poverty by employing the resources at its disposal, i.e. physical, human and financial resources, that it could shift from an economy based on land-owning, agricultural products and trading to one based on the manufacture of goods, all of which were needed for the promotion of both the rural and the urban society, in this country and abroad.

Breaking the constraints of poverty did not happen until the systems of banking, transport and marketing had been established, and the society, with the application of science and technology, could expand its capacity to produce manufactured goods needed for its own promotion, and on which, a new urban structure was built. These new towns and cities had the capacity both for economic growth, and for human degradation; once the opportunity for employment became known, people from towns with little opportunity for growth and expansion, and the poor from the rural areas , crowded to the towns in the hope of participating in the growth process; but to the disappointment of many.

The urban growth of London, the primate city and leader of the urbanization process, is an example of the benefits and problems which are derived from the 'concentrationist' policy, especially as it responded to the free market forces, outside the context of a total urbanization strategy for the country. Because of the way in which the urban structure had become so concentrated, by the mid-20th century industrial enterprizes could not function efficiently, and this tended to impose a restraint on the economic growth process, which now depended heavily on industrial enterprizes.

In the total urban system of the country, much of which had evolved as a response by society to the challenges of the time, there were still many non-industrial towns functioning on an agrarian economy, their markets being assured in the heavy concentration of people in the new industrial cities; this tends to support the city-region integration concept, in which, in a total urban system, towns of different and separate purposes are needed to support each other, for the support of the economy and the society as a whole, each located according to the capability of the land for settlement purposes.

In the latter part of the 20th century, there is already a tendency and a conscious policy on the part of the government to disperse various enterprizes and public offices throughout the country, but these are being dispersed from the large urban concentrations to the smaller urban centres, where, because of the advanced technology of communication and transport systems, and the high environmental quality of life which is available to the employees in these smaller cities or towns, output and efficiency, is unimpaired. However, no substitute, as yet, for the central place for the 'national level' decision-making, i.e. London, has been proposed in this process of dispersion. The policy of the dispersionist school would appear to have an application in highly organized and technologically advanced societies, and its application to the locational strategy for urban settlements in developing countries would have to be studied against the level of science and technology which could be applied to these countries in the 20th century.

In the historical example of the urbanization process of Britain, there is a frame of reference in which the evolution of an urban system can be seen clearly, and, for the most part measured, over a period of time, and against which the level of evolution of the urbanization process of a developing country can be compared; this will permit an evaluation of the system and institution building, on which priority effort can be made to attain specific goals by the government of the developing country in their urbanization process.

3. The relevance of the New Towns Performance Characteristics to the Urbanization Problems of Developing Countries

In the historical experience of the urbanization process of Britain, new towns, i.e., those which have been consciously planned and built, upon the instructions of, and financed by, either the Crown or the wealthy merchants, (rather than the town which has grown in size and prosperity through the enterprize of its occupants, the guilds, or industrial entrepreneurs), have not proven to be 'the seeds' of continuous urban growth and urban prosperity. Many of the several hundreds which have been planted in this way over the past 1000 years are no more than hamlets today. For the most part, the economic base intended for such new towns in the 13th, 16th and 17th centuries was private property-owning and trading, in the context of a national economy based on agrarian activities and trading. Examples from history demonstrate that such an economic base is inadequate to sustain an economic growth rate which will provide the means of supporting an increasing urban population at prescribed urban levels of living.

But the British New Towns, planned, built and managed under the 1946 New Towns Act, were conceived against a totally different set of circumstances; the concept can be described as one which combined a political desire on the part of the Government to provide a better alternative urban environment "for thousands of families living in depressed urban circumstances",(131) with the necessity for providing a more efficient facility for industry to expand output and production. The satisfaction of both could be brought together in the new town idea, some demonstrations of which had been in progress for the previous fifty years.

Mr Schaffer, Secretary of the New Towns Commission,(132) points out that "the first estimates in 1946 put the cost of a new town for 50,000 people at £19 million, of which it was thought £15 million would be borne by the development corporation and £4 million by the local authorities,(133) but this was very quickly recognised to be a serious under-estimate. By 1948, a total of £25 million of public money was thought to be nearer the mark(134) ..... by 1972 the cost of a new town was "probably in the region of £4000 per person - or £250 million for a town for 50,000 people".(135)

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(131) Comment by the Minister of Town and Country Planning, the Rt. Hon. Lewis Silkin, when introducing the New Towns Bill; Parliamentary Papers, 8th May 1946 pp.1072-1153.
(132) Schaffer, F., The New Towns Story, Paladin, 1972, p.202
(133) Explanatory and Financial Memorandum of New Towns Bill, 1946
(134) P.A.C. 1948-9, Minutes of Evidence, Q.2725
(135) op. cit. Schaffer, p.202.

These semi-official estimates have been examined in Chapter 8*; although the statement that "the average cost per person for a British new town is £4000" is not disputed, the context within which the statement is made is seriously open to question. Mr Schaffer also points out that "the really important question, however, is whether the new towns programme has placed an additional burden on the economy as a whole - greater, that is, than if the needs of the country had been met in the traditional way of letting towns expand according to the dictates of the land market. No serious attempt has been made to evaluate the new towns in these terms."

Despite the fact that by 1970, as Sir Frederic Osborne(136) informs us, 60 countries had embarked on the construction of 250 new towns, designed and planned after the British models, (some of these countries being in the 'developing countries' category), the apparently high cost per person clearly excludes the British new town model from the urban development programmes of many developing countries, especially if it were intended to use new towns to promote the economic development of the country and break the constraints of the cycle of poverty.

Chapter 8* analyses the average performance of a near 50% sample survey of the British new towns over the past 25 years, identifying from the official information and accounts, the performance characteristics for the average new town for each year from the year of designation. The synthesis of this information as published, is contained in Table 40, p.310, and Diagram 96 , p.311.

The analysis reveals that the investment of public money under the loan provided from the Consolidated Fund from Treasury to the New Town Corporation, (referred to as 'cost'), was, on average, £4000 per person in the second year from the year the new town was designated; of this, £1400 per person was invested in land, and £1000 per person was invested in building construction, and the balance was needed in site preparation and establishing the Corporation. There is much less investment in the first year than in the second year, the effort during the former is devoted mainly to preparatory and planning work, and negotiating for the purchase of the land.

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(136) Osborne, Sir F., New Towns, the answer to Megalopolis.

The 'cost' per person per annum diminishes annually after the 2nd year; by the 6th year from designation, the 'cost' per person is reduced to £2200; by the 8th year, to £1500; by the 12th year to £1105; by the 15th year to £1000; the 'cost' continues thereafter at this level until the 23rd year, when it begins to diminish again, to £945 in the 25th year.

By the 25th year, on average, 44,000 people would have been accommodated in the new town, of whom 11,500 would be employed in industrial or manufacturing occupations, i.e., comprising on average, 64% of the work force. The balance of the work force, 6,500, is employed in non-industrial occupations. The work force of a new town averages approximately 41% of total town population.

The 'really important question' which Mr Schaffer asks, suggests in fact, two quite separate studies for evaluation of British New Towns. The first question is whether the new towns programme has placed an additional burden on the economy as a whole, (and this thesis examines this point), and the second question is whether it costs the country more to meet the needs of the country through new towns than through the traditional way of letting towns expand according to the dictates of the land market.

The latter study is deserving of high priority in any research study and evaluation of the new towns, but the complexity involved in arriving at the information needed for comparison of the facts, places such an exercise beyond this thesis. However, the information system for measuring new town performance, outlined in Chapter 9,* provides a method by which some empirical analyses can be undertaken to determine some characteristics in this respect.

This thesis is more concerned with the role of new towns in the urbanization process of developing countries, and therefore, whether a new towns programme places an additional burden on the economy as a whole. In the developing countries the people are already crowding into the towns and cities, and threatening the stability of those cities. The need is there for a vast programme of town building.(137) The responsible authorities, both at local level and central government levels, have to make

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(137) For World Bank member countries, the increase is approximately 15 million per annum, plus a backlog of approximately 200 million; using the cost per capita for the new town of Tema in Ghana at £346 per person, some £5000 million plus per annum needs to be invested in the town building programme for the World Bank member countries.

decisions as to the action to be taken in respect of the quality of the built urban environment, (which needs to be provided for the rapidly increasing urban population), with the limited financial resources at their disposal; does the British new town system have a role to play, or a contribution to make, in this problem?

Financial resources are limited in the developing countries, and will need to be used in such a way as to optimise their use in attaining the best balance between economic growth and the promotion of the society as a whole, particularly to encourage the total society to participate in, and contribute to, the growth process.

The planning, design, and construction specifications for the British new towns are quite high, with the result that the cost per person is high compared with that which the people in developing countries would want, but as it is public money which is used to promote the new towns, the new towns programme needs to be examined in context of the public finance accounts in the total national accounting system.

The British new towns are financed from loans from the Consolidated Fund of the Treasury, and because there is a commitment to repay the loans at prevailing bank rate of interest, it is assumed that the Fund is capitalized from sources, such as national savings, debentures, and such like, on which the Government is obliged to honour dividend payments. There is a significant difference to both the new town corporation and its repayment obligation, (and to the value of the return of capital to the public fund), in having to amortize the loans with high interest payments, rather than using interest-free tax money, which is applied directly for budgetary purposes.

As illustrated in Diagram 90, p.287, and Section 7, Chapter 8, the interest rate has been increasing over the past 25 years, from 3% p.a., in the early years of the new towns programme, to 8½% p.a., in 1971. Whilst the interest rates were 3% and 4%, the repayment capability of the growing new town could amortize both capital and interest. As the interest rate increased to above 5%, the cumulative indebtedness from the interest became more difficult to meet, and at the same time retain incentives for the new town corporation to continue its development programme in a competitive way with other investment opportunities. The result is that after the 25th year, the interest payments on the actual loans taken out to build the new town, which were, on average, £42,500,000 for the town of a population of 44,000, only 4% has been repaid against the capital advances.

With the way in which the bank rate of interest has been gradually increasing over the past two decades, an increasing financial burden has been imposed on the management of the new towns, and the policy of development must be affected to meet this additional burden. Scottish new towns are provided some assistance in this respect by a grant to cover repayment deficiences, known as a Capital Deficiency Grant, but this does not apply to the New Towns in England and Wales.

The Consolidated Annual Accounts, prepared by the Commission for the New Towns, for 1973, shows that only 3% of the capital advances have been repaid, though all interest payments have been met; it is assumed that the cumulative capital indebtedness of the average new town at the end of 25 years is approximately £40 million.

It should be noted that even the indebtedness, (or absence of repayment of much of the capital advances, which was caused by the high interest rate), the £42.5 million (on average) in the 25th year, after accommodating 44,000 people, is very much less than the "possible £250,000,000 for a town of 50,000".

However, as this investment venture into new towns is concerned with the use of public funds, as compared with funds controlled by the private sector, one must also consider whether the public funds derive any other benefits from the use of the money in this way, rather than using it in other sectors of national development, such as loans to statutory undertakers, e.g., for power supply, or for the construction of roads, or railways, or any other sector in the decision-making realm of the government, whether in Britain or in a developing country.

Against the low return on capital in the first 20 years for the average British new town, (which conforms to usual practice, especially as the Government is acting in the same way towards the new town corporations as a private building society acts towards a borrower), one needs to examine the value of product and the value added to national income each year which results from the use of this particular loan capital.

The new town creates employment, a percentage of the income from which returns to the Government in the form of income tax; the investment into new towns by Government acts as a pre-investment, and an incentive for private industrialists to invest their capital and establish

industrial and manufacturing enterprizes, all of which add value of product for the country's economic growth; 10% of the value added from many of the processes involved is paid to Government in the form of V.A.T., and an additional tax is paid to Government, or the public finance section, in the form of Corporation Tax. In other words, the British new towns act as an incentive for private industrial investors to invest their capital in manufacturing enterprizes in Britain, where the people get the benefit of the employment opportunities which are provided, rather than in other countries.

For a reason which has not yet been determined, information pertaining to the value of product of, or information on the amount of private investment into, industrial or commercial enterprizes in new towns, is not released in any public document, and therefore, in the context of this thesis, it was not possible to provide any average figure related to these items, or figures specifically identified as averages for the new towns. One indicator which can be used at this stage[138] to demonstrate the value of product added to national income is to use the national average of value of product per worker; in 1968, the value of product per person for manufacturing occupations was £1520, and for non-manufacturing workers, £1360.

Without a proper investigation into these aspects of new towns, these national averages are used as indicators in this section to obtain some indication of the value a new town adds to the national economy each year.

On the assumption that the value of product per worker in a new town is the same as the national average, and that the average has been much the same over the past 25 years as that for 1968, then the cumulative indebtedness in the form of an outstanding capital loan of £40 million from the Consolidated Fund of the Treasury, which will be repaid with interest over the ensuing years, should be related to the cumulative value of product which the same investment has already added to national income; under the conditions previously described, the accumulated value of product added would be £300 million+,of which, on the basis that the Government (revenue fund) would receive approximately 40% in the form of taxes, (i.e., interest free capital), an accumulated payment of £100 million+ would have been made to Government over the 25 year period.

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(138) See extracts from Annual Abstract of Statistics, HMSO, 1972

In addition to the cumulative repayments of £33 million towards the interest charge on the £42 million loan by the 25th year for the construction of the new town, the national income would have benefited by an additional £300 million+, and the public fund would have benefited also from the value of income tax from the employment generated, and value of product, by a further £100 million+.

This is not taking into account the real value added to national wealth by the creation of the new town itself in the open market. The value must surely be far in excess of the £42 million invested, plus the millions of pounds worth of private industrial enterprizes, which have established themselves in the new towns.

Add to the above benefits, which derive to the public funds, the social benefits to the citizens of the country, many of whom were formerly living "in depressed urban circumstances", who can now fulfil their aspirations for living in a civilized urban environment, and a built urban form which will not require demolition and expensive reconstruction over the next few generations, (i.e., an avoidance of the diseconomies created by unplanned spread of urban settlement), then one can begin to evaluate more realistically whether the use of the public funds as loans to construct new towns, has placed an additional burden on the economy as a whole.

In the context of national accounting, the investment of £42 million from the public fund accrues to Government income three times the value of the loan made over the 25 year period; the value of product added to national income, for the average, was 8 times that of the value of the loan; nearly £33 million has been repaid to the Treasury as interest on the loan. The real value added to national wealth far exceeds the value of the capital loan. In addition, the economic process of the new town continually contributes to the economic growth process of the country.

Under the circumstances, (or within these performance characteristics), it cannot be said that the British new towns place an additional burden on the economy as a whole, but rather, that they add much more to the economy as a whole than the value of the public loan made to them.

The British model for new towns is now clearly defined as the new town which has been sponsored from public loan funds under the provisions of the 1946 New Towns Act; it is planned, built and managed as part of

the national government's planned urban development programme, in which there is effective collaboration with the local governments, and the statutory undertakers, and the other Government offices and ministries involved in the urbanization process (such as the Ministry of Education, Department of Trade and Industry, etc.) and in which, quite specific provision is made for industrial and manufacturing enterprizes in the town, which both provides employment for the local people, and adds to the economic and development needs of the country. This concept of a disciplined, government urbanization programme is in sharp contrast to a new town, planned, built and financed as a private land speculative venture. The latter, no doubt, can be financially successful, but in a developing country, a very large part of the urban population would be excluded from taking up residence in such new towns, because their incomes would be too low to qualify for most of the mortgage arrangements which are available from the private sector at present.

In the context of a government using planned new towns as part of a national plan for development, after the British model, the evidence indicates clearly enough that the high interest rates which are imposed on the amortization of capital detract from an otherwise valuable contribution which the British model for new towns(139) would make in accelerating the urbanization process of the country. In the developing countries, the use of such new towns could be aimed at making the country less dependent upon an agrarian economy, and likewise, could be aimed at expanding the economy, and providing the means of raising standards of living in the built urban environment, and for creating and expanding the local market for urban goods. The demand for building materials and building construction industry would be increased, along with the demand for all urban facilities and needs, which, on the basis of import substitution industries, would continue the cycle of economic expansion.(140)

As indicated in two of the examples where new communities have been planned and built, the one in Rio de Janeiro to re-house the poor, and the other as a 'growth centre', the judicious use of the public loan funds in this way, but with interest rates limited to 4% p.a., sets in

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(139) i.e., with industrial location and output related directly to employment opportunities in the new town.

(140) As outlined in Chapter 2, Section 6.*

motion a cycle of economic growth and ensures a return of the capital to the government fund, which cumulatively, and in summation, exceeds the demand on the public loan fund.

The extent to which this has any relevance to the urbanization problem in a developing country is to be found in the extent to which the various urban systems have already been institutionalized in the particular country, (either by the private sector or public sector), and whether the government has formulated a national urban development programme, with a clearly defined urbanization strategy, in which there would be a conscious effort to provide a carefully planned urban system, whereby the new towns would have a prescribed role to play in the total national development process.

Of the three examples which were examined in this thesis, the Government of Ghana, (a country with a population of 8.8 million in 1970, and a G.N.P. per capita equivalent to £81), applied the British new town model in Tema, but kept the interest rate low. The annual growth rate of both the population accommodated, and the value of product of manufactured goods, for the period under study, approximated to 15% and 18% respectively, which is the approximate rate of annual increase of the worst conditions of in-migration of the urban squatters to the larger cities. It is a rate of increase in urban squatter population of this magnitude which is creating the urbanization problem in developing countries.

The specification and standards for the town design of Tema were modified and adjusted to suit the local standard and the local environment. The project was in the context of a national urban development plan, the land was acquired at very low cost, the infrastructure and other incentives were provided for the private and foreign industrial investors to participate in the development of the industrial complex, and there is every indication that Tema has contributed to the economic growth and urbanization needs of the country.

In the case of the example of planned new communities for the poor in Greater Rio de Janeiro, the fund was provided from the equivalent of the Consolidated Fund of the Treasury, i.e. a Bank which was obliged to honour interest payments on the deposits, but the interest rate of the

loan to the Commission entrusted with providing new communities for the urban squatters was limited to 4½% p.a. The Central Governments and State Governments collaborated, and provided incentives for industrial undertakings to establish employment opportunities in the new communities. Thousands of families were lifted out of depressed urban circumstances to a new urban environment. Although there is little comparison between the standards of civic design of the British new towns and the new communities in Rio de Janeiro, nevertheless, the latter are more hygienic, and provide much better social opportunities for advancement, than the conditions under which the people had been living previously.

Both examples indicate that the British New Town model, (with the exclusion of the high interest rate on the loan conditions), can provide for the integration of the in-migrants to the urbanization process at a rate approximating to the trend of such movement, and the time scale for the establishment of effectively working new towns can be accelerated at a much faster rate of development than that applied in Britain. The system provides a basis, in very controlled circumstances, for meeting the urbanization problem in many of the developing countries.

The third example, that of a proposal for new communities in a city-region integration concept for Greater Manila, was abandoned by the Government in favour of a policy based on the concept of the 'concentrationist' school; the absence of a planned urbanization strategy, and the pressure of the urban squatter population on Greater Manila is regarded by some authorities as contributing to the final breakdown of the political/system.

The British new towns are actually part of an urbanization system which has evolved after centuries of experiment and institution building, and it is a system in which there is participation by the people, the private sector, local government and central government, in which all contribute for the benefit of the whole.

Although, in its totality, the model is complex, it does portray the institutionalization of the systems which is necessary to make the urbanization process play its part in the total development process of the country. The extent to which the creation of these systems in developing countries can be accelerated, and become manned and established, and be in reasonable working order, for the use of 'new towns' as one of the

instruments for economic growth, is a subject in which urgent research work into planning is needed. Once urbanization can be accepted in the context of an 'urban system of systems' and most of the component elements can be quantified, then appropriate programmes of action can be applied.

4. CONCLUSION

The British urbanization process does have considerable relevance to the urbanization problem in developing countries in that, having been in an equivalent state of under-development to that in which many towns and cities of the developing countries find themselves today, the example demonstrates the way in which each system of the total urban system of systems has been institutionalized, and contributes to the growth process, and has become a function of Government in a free market society, and as such, can act as a valuable reference for developing countries which have an urbanization problem.

It provides a model of an effectively working urban system, which is not necessarily for developing countries to emulate, but which can act as a guide to developing countries in the institutions and systems which have to be made operable in the circumstances pertaining in those countries, if those governments accept an obligation to intervene in the urbanization process of their particular country, and adopt a policy of using the 'urban system' to promote economic growth, and guide the urbanization process.

A problem still remaining for the developing countries is that there are several different interpretations for the word 'urbanization', and several quite often conflicting approaches to the way the solutions to the urbanization problem should be studied. Until a universally agreed and more accurate definition of the word 'urbanization' is accepted by international development agencies, the governments themselves, and learned institutions, then the study of the problems of urbanization, the causes and effects will continue in a fragmented way, with conflicting concepts. It is contended that urbanization, as a discipline of study, is one of the most significant components of societal development today, and as such, should be recognized, and provision made for both an educational policy and a rationalized programme of research.

The British New Towns Model, (i.e., in the context of a government having adopted an obligation to intervene directly in the planned urbanization of the country, and use new towns to promote industrial employment), does have a relevance to the urbanization problem of the developing countries, but only in the context of a national planned urban

development strategy, in which the spatial distribution of settlement is integrated with economic growth and the interest rate for amortization is limited to 4% p.a. New towns, as speculative ventures, will contribute very little to the solution of the urbanization problem; it is only when they are used in the context of a national urbanization plan which is part of a national development plan, that new towns have a valid contribution to make. In that context, the example of the use of the British New Town model in a developing country demonstrated that the rates of development, and the annual increase in the value of production, can match the higher rate of rural to urban shift of population which is taking place in developing countries today, i.e., of approximately 15% p.a.

In developing countries, which have limited savings and financial resources available for national development, and where alternatives for the use of the available funds have to be carefully considered, the British New Town model can provide the means of expanding the local economy at a rate to match the increase of the local urban population; the investment acts as an incentive for private investment to participate in the industrial and manufacturing sector of that new town, and often encourages external sources of investment to participate. The public fund will accrue income annually by way of taxes from production and employment, which may not have been made available by other uses of the loan funds. For the amortization of the loan over a reasonable period of time, the interest rate needs to be kept to a level of 4% otherwise the interest commitment can cause an excessive burden on the repayment ability of the enterprize to amortize the capital. The use of the funds in this controlled way adds to the expansion of the national economy, and provides a civilized human environment for the population accommodated in the urban system. It provides the planned physical environment in which the concentration of people will provide a dynamism of societal interaction which stimulates the local society to organize itself to provide the means for its own perpetual improvement.

This thesis contends that by viewing the urbanization process as an urban system of systems, all those concerned in the physical, corporate and economic planning process, along with those involved in an urban way of life, will have the means to prepare strategies of development, suited to the local prevailing circumstances, which can accelerate the process of integrating the increasing number of urban-squatters into the urban society, and control the mounting urbanization problem in developing countries.

ANNEXES

ANNEX I: DESCRIPTION OF MODEL TO SIMULATE INTERACTION BETWEEN OCCUPATIONAL SECTORS, FAMILY INCOMES AND FAMILY BUDGET SPENDING.

Feasibility of the model: progress to date

Work has been proceeding on the design of this model (1) over the past 18 months, and a program written and tested for two of the interacting component parts of the model, namely:-

1. The occupational sector and salaries,

2. Family incomes and family budget spending,

as marked on Diagram A, p. 416.

For ease of use a computer program was written to perform the routine calculations involved.

Given the following data

TE - total employed (single value)
PSB - production sector breakdown (vector of percentages)
SC - salary classes (vector of values)
SCB - salary class breakdown (matrix of percentages)
FBB - family budget breakdown (matrix of percentages)

the program calculates the following:

production sector numbers
production sector/salary class numbers
production sector/salary class values
total minimum salaries/production sector
salary class numbers
salary class numbers as percentages of total employed
salary class values
family budget item salary class values
family budget item total values
family budget item total values as percentages of total salaries.

The following simple facilities are available via commands to the programme:

read in a new set of basic data (TE, PSB, SC, SCB, FBB)
read in replacement data (TE, PSB, SC, a row of SCB or a column of FBB)
calculate all dependent factors and print them out.

(1). M. Juppenlatz, G. Stacey, C. McArthur.

(a) Description of the Occupational (or production) Sectors of the Town

The key to the prosperity of a town is the level of employment, distributed throughout the occupational sector, which produces a value of output for local consumption, as well as national export. Under the new Value Added Tax system, tax will be levied on value of production and service throughout the community, at local to national level. The trade classification for V.A.T. is also the most convenient classification to use for quantifying the occupational elements of model, as follows, (see also pp. 420-2);

Model Code No.	OCCUPATIONAL SECTOR		(PSB) % break-down in each sector	LCN numbers employed
	VAT Code			
1	01.	Agriculture, forestry, fishing	-	-
2	03.19	Manufacturing	-	-
3	20.	Construction	-	-
4	21.	Utilities	-	-
5	22.	Transport & commun.	-	-
6	23.	Distributive trades	-	-
7	24.	Retail distribution	-	-
8	25.	Dealers	-	-
9	26.	Insurance, banking, finance & business	-	-
10	27.	Professional & scientific	-	-
11	28.	Miscellaneous services	-	-
12	29.	Public Admin & Defence	-	-

Salaries or (SC) range of incomes per week (£)

10,15,20,30, 40,50,60,75+

Matrix of % Breakdown of number employed in each occupational sector according to salary (SCB)

Number of persons employed in each salary range according to occupational sector (SCN)

Given the total number of persons employed (TE) and the % breakdown of employment in each occupational sector (PSB). The number of persons employed in each sector (LCN) =

$$LCN_i = \frac{PSB_i * TE}{100}$$

Given the salary range of income per week (SC) and the matrix of % breakdown of the number employed in each occupational sector at, or in, each salary range (SCB), the total number of persons employed in each salary range (SCN) =

$$SCN_j = \sum_{i=1}^{M} \frac{SCB_{i,j}}{100} * LCN_i$$

where M is the number of occupational sectors, (12)

Such a matrix will provide information for a variety of purposes; one such purpose in which the corporation managers and planners are interested from a monitoring, investment, taxing, amortization capacity and consumers spending point of view, (i.e. how much money is circulating through the 'pay packets' each week) is the amount of salaries paid weekly in each income group, (SCV);

$$SCV_j = SC_j * SCN_j$$

The total of salaries paid out in each week to the labour force, or those employed in, or throughout, the town, (whether resident in the town or not), (TS);

$$TS = \sum_{j=1}^{N} SCV_j$$

where N is the number of income groups.

Information on the number of employees who are employed in the occupational sector of the new town, and who are resident in the town, as compared with those who are resident in another town, is usually available (or could be made available) with little effort; the information can be punched on separate cards and two separate print-outs, one for each set of conditions can be printed out for easy comparison. It is possible to use the Garin-Lowry model for this purpose, also.

One of the more significant reasons for identifying the amount of salaries paid out to all the employees in a town, whether resident or non-resident, is to identify the amount of money which is available for circulation throughout the town through the family budget spending capacity. In this way, an indication of the total amounts of money which is circulating each week for the payment of rents, rates, amortization of house loans, or other loans, purchase of household and consumer foods, payment of taxes, etc. can be made.

EAST KILBRIDE (1966)

	Number employed in each occupational sector	% distribution of income groups by occupation (full-time employment of males over 21) Income range in £sterling per week							
		£10	£15	£20	£30	£40	£50	£60	£75 & +
AGRARIAN	70	1.1	18.9	47.5	29.5	2.5	0.3	0.2	0.0
BUILDING CONS'T	1980	0.1	0.7	5.7	36.1	37.4	15.0	2.8	2.2
MANUFACTURE	6440	0.5	1.6	8.5	44.2	26.1	10.8	3.9	4.0
COMMERCE	900	0.6	2.1	10.8	39.2	25.4	10.9	5.6	5.3
TRANSPORT	160	0.1	3.5	9.5	42.3	34.2	8.3	1.4	1.6
COMMUNICATION	150	0.9	3.7	15.7	55.2	16.2	5.0	2.1	1.2
PUBLIC AUTHORITY & Utilities	460	0.5	1.5	8.0	37.4	32.7	11.3	4.8	3.8
FINANCE Banking & Insurance	50	0.2	1.5	4.9	20.4	31.2	14.3	7.8	24.6
PROFESSIONAL	1280	0.6	1.5	4.5	27.1	30.5	16.2	10.4	9.3
AMUSEMENT Hotels & Catering	410	5.1	12.8	27.9	33.5	14.1	3.6	1.8	1.2
OTHER 1.	10	0.0	1.1	27.7	52.6	16.4	1.6	0.6	0.0
OTHER 2.	0	-	-	-	-	-	-	-	-
TOTAL	11970								

- SAMPLE ONLY -

(From sample surveys carried out in 1966 by the Office of Statistics)

(b) Family Income and Family Budget Spending

As a general rule, families or persons within a particular salary range have similar (though perhaps not identical) spending habits.

In the U.K. the Department of Employment and the Central Statistical Office carry out periodic sample surveys on FAMILY BUDGET SPENDING, under the following headings,

FAMILY BUDGET SPENDING

Housing,

Fuel, light, power

Food

Alcohol

Tobacco,

Clothing,

Household goods,

Other goods,

Transport,

Services,

Miscellaneous

The matrix of the % breakdown of spending on each item according to the income or salary range is shown on Table 167, which omits the value of income tax, (deducted from pay by P.A.Y.E.) and rates, as shown on p. 415.

To obtain the approximate total amount spent on each item each week throughout the town by the resident employees, $FBIT_i$ (Family Budget Item).

$$FBIT_i = \sum_{j=1}^{N} \frac{FBB_{i,j}}{100} * SCV_j$$

When N is the number of the salary or income levels in total salary range.

The total amount spent each week in the town by resident employees would be (TO), (total outlay);

$$TO = \sum_{i=1}^{P} FBIT_i$$

When P is the number of family budget spending items (12); this sum should equal TS, total salaries.

37 Average weekly household income and expenditure, by ranges of weekly household income, 1970

United Kingdom

	Weekly household income						
	Under £10	£10 and under £15	£15 and under £20	£20 and under £25	£25 and under £30	£35 and under £35	£35 and under £40
Average weekly household income	7·545	12·229	17·525	22·693	27·537	32·545	37·474
Average weekly household expenditure	9·464	13·978	18·653	21·648	24·318	28·424	31·245
Commodity or service							
Housing	1·979	2·576	3·003	3·487	3·038	3·463	3·708
Fuel, light and power	1·237	1·483	1·552	1·656	1·707	1·866	1·837
Food	2·892	4·272	5·366	6·088	6·914	7·556	8·115
Alcoholic drink*	0·200	0·363	0·523	0·797	1·007	1·234	1·352
Tobacco*	0·307	0·652	1·042	1·280	1·342	1·550	1·627
Clothing and footwear	0·511	0·944	1·276	1·718	2·035	2·542	2·723
Durable household goods	0·394	0·653	1·094	1·071	1·366	2·008	2·202
Other goods	0·652	1·018	1·207	1·654	1·755	2·059	2·303
Transport and vehicles	0·449	0·822	1·575	2·232	3·032	3·919	4·591
Services	0·839	1·178	1·381	1·622	1·975	2·129	2·424
Miscellaneous†	0·003	0·019	0·037	0·044	0·096	0·087	0·134
	Percentages						
Expenditure on commodity or service as a percentage of total expenditure	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Housing	20·9	18·4	16·6	16·1	12·7	12·2	12·1
Fuel, light and power	13·1	10·6	8·6	7·7	7·0	6·6	5·9
Food	30·6	30·6	29·7	23·1	28·5	26·6	26·0
Alcoholic drink*	2·1	2·6	2·9	3·7	4·1	4·3	4·3
Tobacco*	3·2	4·7	5·8	5·9	5·5	5·5	5·2
Clothing and footwear	5·4	6·7	7·1	7·9	8·4	8·9	8·7
Durable household goods	4·2	4·7	6·1	5·0	5·6	7·1	7·3
Other goods	6·9	7·3	6·7	7·6	7·2	7·2	7·6
Transport and vehicles	4·7	5·9	8·7	10·3	12·5	13·8	14·7
Services	8·9	8·4	7·6	7·5	8·1	7·5	7·8
Miscellaneous†	–	0·1	0·2	0·2	0·4	0·3	0·4

	Weekly household income					
	£40 and under £45	£45 and under £50	£50 and under £60	£60 and under £80	£80 or more	All households £
Average weekly household income	42·337	47·311	54·460	68·012	110·007	35·401
Average weekly household expenditure	33·323	36·186	40·707	48·267	66·166	23·530
Commodity or service						
Housing	3·919	3·971	4·247	4·958	7·217	3·590
Fuel, light and power	1·890	1·957	1·862	2·172	3·070	1·786
Food	8·494	9·131	9·641	11·172	13·279	7·354
Alcoholic drink*	1·578	1·552	2·157	2·660	3·658	1·273
Tobacco*	1·689	1·665	1·893	2·101	1·791	1·363
Clothing and footwear	3·193	4·052	4·148	5·084	6·963	2·635
Durable household goods	2·539	2·324	2·723	3·254	4·501	1·843
Other goods	2·477	2·631	3·224	3·697	5·058	2·124
Transport and vehicles	4·543	5·295	6·943	8·162	10·643	3·903
Services	2·842	3·371	3·519	4·891	9·759	2·533
Miscellaneous†	0·152	0·186	0·143	0·185	0·221	0·099
Expenditure on commodity or service as a percentage of total expenditure	Percentages					
Housing	100·0	100·0	100·0	100·0	100·0	100·0
Fuel, light and power	11·8	11·0	10·4	10·3	10·9	12·6
Food	5·7	5·4	4·6	4·5	4·6	6·3
Alcoholic drink*	25·5	25·4	24·2	23·1	20·1	25·7
Tobacco*	4·7	4·3	5·3	5·5	5·5	4·5
Clothing and footwear	5·1	4·6	4·7	4·4	2·7	4·8
Durable household goods	9·6	11·2	10·2	10·5	10·5	9·2
Other goods	7·6	6·4	6·7	6·7	6·8	6·5
Transport and vehicles	7·4	7·3	7·9	7·5	7·7	7·4
Services	13·6	14·6	17·1	17·0	16·1	13·7
Miscellaneous†	8·5	9·3	8·6	10·1	14·8	9·0
	0·5	0·5	0·3	0·4	0·3	0·3

* The recorded expenditures on alcoholic drink and tobacco are known to be under-stated.

† Including children's pocket money and other expenditure not assignable elsewhere.

Source: *Family Expenditure Survey*, 1970, p. 349.

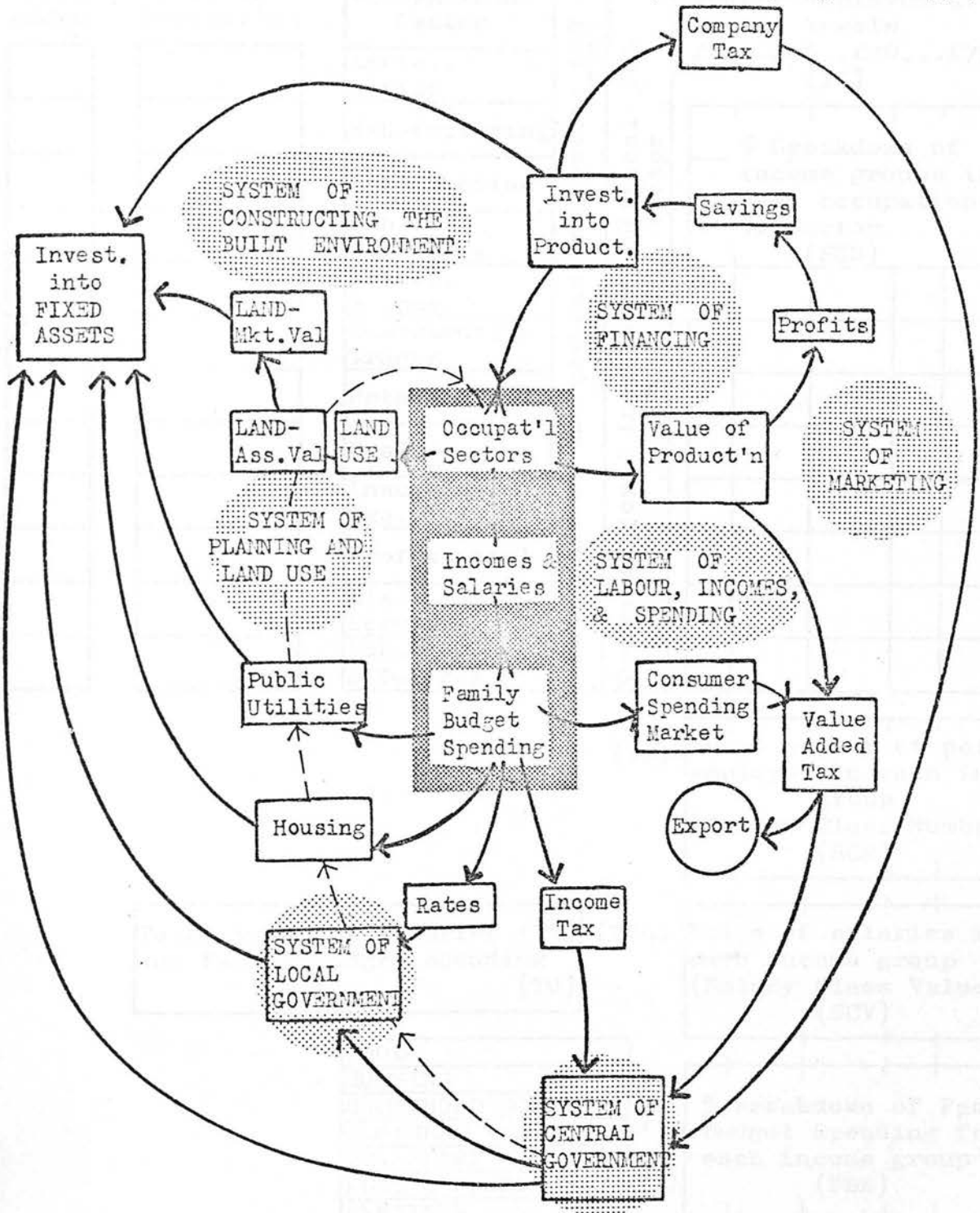
DIAGRAM A

SCHEMATIC OUTLINE OF THE ENERGY FLOW (CASH)

IN THE CONTINOUS DYNAMIC PROCESS

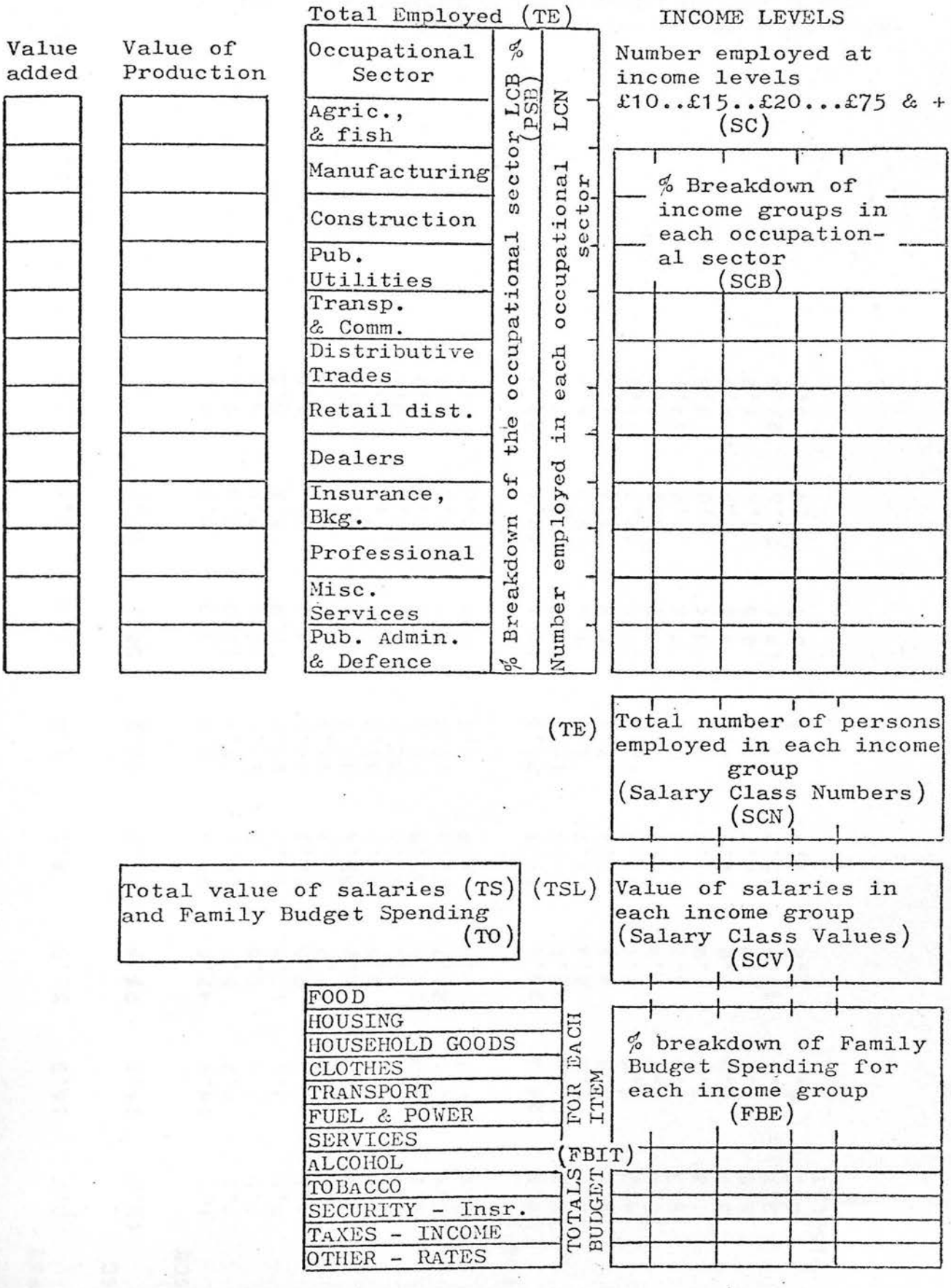
OF URBAN COMMUNITY LIFE

The 'core' has been written as a symbolic model for simulating interaction between the three matrices of information on occupational sectors, incomes, and family budget spending, programmed and tested; see sample printout, p.419.



Neither System for Transport and Communication, nor System for Levels of Living, are shown separately in this schematic outline, as the elements of both systems are contained in the information units shown. External inputs are not shown.

DETAIL OF OCCUPATIONAL SECTOR, EMPLOYMENT DISTRIBUTION BY SALARY AND OCCUPATION, AND FAMILY BUDGET SPENDING BY INCOME



SAMPLE OF DATA AND PERCENTAGES FED TO THE PROGRAMME:

TE Total number Employed.

PSB % - Breakdown of employment in each occupational Sector.

SC Salary range of income per week.

SCB % - Breakdown of number employed in each salary range.

FBB % - Breakdown of family budget spending on each item according to income per week in salary range.

```
TE
 1.1972 E+04
PSB
      .7      16.5      31.5       8.1       1.4       1.3       3.8       .4      12.7       3.4       .2       .0
SC
     10.0      15.0      20.0      30.0      40.0      50.0      60.0      75.0
SCB
      1.1      18.9      47.5      29.5       2.5       0.3       0.2       0.0
      2.1       0.7       5.7      36.1      37.4      15.0      2.8       2.2
      2.5       1.6       8.5      14.2      25.1      10.8      3.9       4.0
      5.6       2.1      10.8      39.2      25.4      10.9      5.6       5.3
      7.1       3.5       9.5      42.3      34.2       8.3      1.4       1.6
      8.9       3.7      15.7      55.2      16.2       5.0      2.1       1.2
      9.5       1.5       8.8      37.4      32.7      11.3      4.8       3.8
      2.2       1.5       4.9      20.4      31.2      14.3      7.8      24.6
      3.6       1.5       4.5      27.1      30.5      16.2      10.4      9.3
      5.1      12.8      27.9      33.5      14.1       3.6      1.8       1.2
      0.4       1.1      27.7      52.6      16.4       1.6      0.6       0.0
      0.0       0.0       0.0       0.0       0.2       0.0      0.0       0.0
FBB
     29.8      28.4      26.1      23.7      21.0      19.1      18.0      15.4
     19.1      17.1      12.8      10.9      10.7       9.2       7.9       7.4
      4.7       5.2       5.4       5.7       5.4       5.9       5.9       5.1
      6.1       6.3       6.8       7.4       7.5       7.4       7.0       7.0
      4.2       5.6       8.1      10.3      12.3      11.6      12.2      11.6
     12.4       9.4       7.5       5.2       4.4       4.2       3.5       2.9
      8.3       7.8       6.9       6.3       6.7       7.2       7.8      10.1
      1.8       2.3       2.9       3.4       3.4       3.4       4.0       3.5
      3.9       4.6       5.0       4.8       4.1       4.2       3.9       2.9
      0.5       0.6       0.9       0.7       1.9       2.6       3.6       1.9
      2.7       6.1      11.4      15.3      16.8      19.6      21.6      27.0
      6.5       6.6       6.2       6.3       5.8       5.6       5.4       5.2
DISPLAY
```

SAMPLE OF THE PRINT - OUT WHICH IS PRODUCED WHEN INFORMATION ON THE NUMBER EMPLOYED, INCOME LEVELS BY OCCUPATION, AND FAMILY BUDGET SPENDING IS PROVIDED (1½ secs. to compute)

TOTAL EMPLOYED 11972.8			% / NOS. / VALUE AT FOLLOWING MINIMUM SALARIES								
	%	NOS.		12,8	15,2	20,8	30,8	40,8	50,8	60,8	75,8+	SALS. PAID
AGRARIAN	8,7	88.8	%	1,1	18,8	47,5	24,5	2,5	0,3	0,2	0,1	
			NOS.	1,0	16,8	42,2	21,7	2,1	0,3	0,2	0,1	
			VALUE	12,8	255,6	1755,8	964,2	124,9	16,3	13,1	9,1	2458.3
BUILDING CONS.	16,5	1975.4	%	2,1	8,7	5,7	35,1	37,4	15,8	2,8	2,2	
			NOS.	2,8	13,8	112,6	713,1	738,8	298,3	55,3	41,5	
			VALUE	25,7	249,6	2927,5	27911,3	36417,1	19259,9	4314,2	4257,2	97202,4
MANUFACTURE	51,5	6165.6	%	2,5	1,6	5,5	44,2	25,1	12,8	3,9	4,3	
			NOS.	34,8	98,6	524,1	2795,9	1603,2	665,9	247,5	246,6	
			VALUE	482,8	1923,7	13825,9	86282,1	83679,1	43282,3	16795,7	24465,7	291395,8
COMMERCE	8,1	969.7	%	3,6	2,1	13,8	39,2	23,4	12,9	5,6	5,3	
			NOS.	5,6	23,4	184,7	384,1	246,3	145,7	54,3	51,4	
			VALUE	75,6	307,1	2723,8	14825,2	12824,2	6872,5	4235,8	5211,1	45948,6
TRANSPORT	1,4	167,6	%	8,1	3,5	9,5	42,3	34,2	8,3	1,4	1,6	
			NOS.	2,2	5,9	15,9	71,9	57,3	13,9	2,3	2,7	
			VALUE	2,2	114,4	414,6	2769,3	2581,7	924,2	183,9	281,5	7425,1
COMMUNICATION	1,3	155,6	%	2,9	3,7	15,7	55,2	16,2	5,0	2,1	1,2	
			NOS.	1,4	5,8	24,4	85,9	25,2	7,8	3,3	1,9	
			VALUE	18,2	112,3	635,3	3350,5	1311,1	525,6	254,9	182,1	6370,2
PUB. AUTH. UT.	3,8	454,9	%	2,5	1,5	8,8	37,4	32,7	11,3	4,8	3,8	
			NOS.	2,3	6,8	36,4	170,1	148,8	51,4	21,8	17,3	
			VALUE	29,6	133,1	945,3	6635,7	7739,7	3341,5	1723,3	1685,5	22213,6
FINANCE	2,4	47,9	%	3,2	1,5	4,9	23,4	31,2	14,3	7,6	24,6	
			NOS.	0,1	0,7	2,3	9,8	14,9	6,8	3,7	11,8	
			VALUE	1,2	14,2	81,2	381,3	776,9	445,1	291,3	1148,6	3119,3
PROFESSIONAL	12,7	1521.4	%	2,6	1,5	4,5	27,1	30,5	16,2	12,4	9,3	
			NOS.	9,1	22,8	68,4	412,3	463,7	246,3	188,1	141,4	
			VALUE	118,6	444,7	1778,9	10460,5	24114,2	19017,3	12335,8	13786,6	84656,6
AMUSEMENT	3,4	407,0	%	5,1	12,8	27,9	33,5	14,1	3,6	1,8	1,2	
			NOS.	20,8	52,1	113,6	136,4	57,4	14,7	7,3	4,9	
			VALUE	269,9	1014,0	3952,7	5318,1	2984,5	952,5	571,5	474,2	14541,3
OTHERS1	8,2	23,9	%	3,8	1,1	27,7	52,6	10,4	1,6	0,6	3,8	
			NOS.	0,2	0,3	6,6	12,6	2,9	0,4	0,1	0,8	
			VALUE	0,3	5,1	172,4	491,2	284,2	24,9	11,2	0,8	939,1
OTHERS2	0,0	0,2	%	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
			NOS.	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	
			VALUE	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
			SALARY CLASS NUMBERS									
				73,4	243,2	1854,9	4740,9	3567,7	1496,4	547,8	521,4	
			SALARY CLASS NUMBERS AS % OF TOTAL EMPLOYED									
				0,6	2,0	8,8	39,6	28,1	11,8	4,6	4,4	

TOTAL SALARIES PAID 578094.3			SALARY CLASS VALUES								
			953.7	4738.9	27272.8	184893.5	1179129.7	91613.4	42667.8	56834.4	
			% / VALUE SALARY ON FAMILY BUDGET ITEMS								TOT-VALUE	%TOT.SALS.
FOOD	%		23,6	28,4	26,1	23,7	21,8	19,1	18,6	15,4		
	VALUE		284,2	1345,8	7114,8	43813,4	35775,3	17498,1	7935,9	7832,5	122349.9	21.2
HOUSING	%		19,1	17,1	12,8	18,9	16,7	9,2	7,9	7,4		
	VALUE		182,2	812,3	3492,8	28153,4	18737,9	8426,4	3371,8	3761,7	58935.6	11.2
HOUSEHOLD G'DS	%		4,7	5,2	5,4	5,7	5,4	5,9	5,9	5,1		
	VALUE		44,8	246,4	1472,7	10538,9	9456,5	5425,2	2517,4	2592,6	32274.5	5.6
CLOTHES	%		6,1	6,5	6,8	7,4	7,5	7,4	7,8	7,8		
	VALUE		58,2	298,5	1854,5	13682,1	13134,8	6779,4	2988,7	3556,4	42351.9	7.3
TRANSPORT	%		4,2	5,6	8,1	10,3	12,3	11,6	12,2	11,6		
	VALUE		40,1	265,4	2209,2	19044,0	21539,8	10627,1	5205,5	5496,8	64827.7	11.2
FUEL&POWER	%		12,4	9,4	7,5	5,2	4,4	4,2	3,5	2,9		
	VALUE		118,3	445,5	2045,4	9614,5	7725,3	3847,8	1493,4	1474,2	26744.2	4.6
SERVICES	%		8,3	7,8	6,9	6,3	6,7	7,2	7,8	10,1		
	VALUE		79,2	369,6	1881,8	11648,3	11733,1	6596,2	2985,7	5134,3	42429.1	7.8
ALCOHOL	%		1,8	2,3	2,9	3,4	3,4	3,4	4,8	3,5		
	VALUE		17,2	109,3	792,9	6280,4	5954,1	3114,9	1726,7	1779,2	19758.3	3.4
TOBACCO	%		3,9	4,6	5,8	4,8	4,1	4,2	3,9	2,9		
	VALUE		37,2	218,0	1363,6	8874,9	7179,9	3847,8	1664,8	1474,2	24659,6	4,3
SECURITY	%		0,5	0,6	0,9	0,7	1,9	2,6	3,6	1,9		
	VALUE		4,8	28,4	245,4	1294,3	3327,3	2381,9	1536,8	965,9	9784.8	1.7
TAXES	%		2,7	6,1	11,4	15,3	16,8	19,6	21,6	27,0		
	VALUE		25,8	289,1	3109,0	28288,7	29420,8	17956,2	9214,2	13729,3	102631.4	17.8
OTHERS	%		6,5	6,6	6,2	6,3	5,8	5,6	5,4	5,2		
	VALUE		62,4	312,8	1693,9	11648,3	14157,4	5132,3	2301,1	2643,4	33948.7	5.9

ANNEX II

VAT Trade Classification

Trade Code	
	PRIMARY INDUSTRIES
	Group 01 – Agriculture, forestry and fishing
0011	Livestock farming (including pigs and poultry)
0012	Arable farming
0013	Dairying
0014	Mixed farming (no more than 50% in any of the above)
0015	Breeding of non-food producing animals (including horses)
0016	Agricultural contracting
0017	Market gardening and fruit farming
0018	Flower and seed growing
0020	Forestry
0030	Fishing
	Group 02 – Mining and quarrying
1010	Coal mining other than opencast (heading 5030)
1020	Stone and slate quarrying and mining
1030	Chalk, clay, sand and gravel extraction
1040	Petroleum and natural gas
1090	Other mining and quarrying
	MANUFACTURING INDUSTRIES
	Groups 03 to 19 are in substantially the same detail as SIC Orders III to XIX.
	CONSTRUCTION
	Group 20 – Construction
5001	General builders
5002	Building and civil engineering contractors
5003	Civil engineering contractors
5004	Plumbers
5005	Joiners and carpenters
5006	Painters and decorators
5007	Roofing contractors
5008	Plastering contractors
5009	Glazing contractors
5011	Demolition contractors
5012	Scaffolding specialists
5013	Reinforced concrete specialists
5014	Heating and ventilating engineers
5015	Electrical contractors
5016	Asphalt and tar spraying contractors
5017	Plant hirers
5018	Flooring contractors
5019	Constructional engineers
5021	Insulating specialists
5022	Suspended ceiling specialists
5023	Wall and floor tiling specialists
5029	Specialists not elsewhere specified
5030	Opencast coal mining

Trade Code	
	UTILITIES
	Group 21 – Gas, electricity and water
6010	Gas
6020	Electricity
6030	Water
	TRANSPORT AND COMMUNICATION
	Group 22 – Transport and communication
7010	Railways
7021	Omnibus and tramway services
7022	Taxis and private-hire cars
7030	Road haulage contracting for general hire or reward
7040	Other road haulage
7050	Sea transport
7060	Port and inland water transport
7070	Air transport
7080	Postal services and telecommunications
7091	Shipping agents and forwarding agents
7092	Travel agents
7093	Driving instruction
7094	Operation of car parks, toll roads and toll bridges
7099	Other miscellaneous transport services and storage
	DISTRIBUTIVE TRADES
	Group 23 – Wholesale distribution
	(*N.B. Wholesaling of motor vehicles (new and second-hand), including motor cycles and caravans, is allocated to heading 8941 and not to the headings within this group*)
	Wholesale distribution of:
8101	Fresh meat, fish, fruit and vegetables
8102	Alcoholic drink (including bottling)
8109	Other food and drink
8110	Petroleum products
8121	Chemists' sundries
8122	Clocks and watches
8123	Clothing
8124	Furs
8125	Textiles
8126	Footwear
8127	Electrical goods
8128	Radios, TV sets, tape recorders, tape recordings and gramophone records
8129	Jewellery
8131	Imitation jewellery
8132	Musical instruments

Trade Code

8133 Photographic goods
8134 Toys
8135 Travel and fancy goods (including shopping bags)
8136 Furniture and floor coverings
8137 China, glassware, hardware and ironmongery
8138 Paper and board products, including reading material
8139 Leasing of office furniture, vending machines, juke boxes and gaming machines
8149 Other goods

Group 24 – Retail distribution

(*N.B. Retailing of motor vehicles (new and second-hand), including motor cycles and caravans, is allocated to heading 8941 and not to the headings within this group*)

8201 Grocers
8202 Dairymen
8203 Butchers
8204 Fishmongers and poulterers
8205 Greengrocers and fruiterers
8206 Bread and flour confectioners
8207 Off-licences
8211 Department stores
8212 Variety and other general stores
8213 General mail order houses
8214 Confectioners, tobacconists and newsagents
8215 Footwear shops
8216 Men's and boys' wear shops
8217 Women's and girls' wear, household textiles and general clothing shops
8218 Retail furriers
8219 Domestic furniture shops, floor coverings shops, furniture and upholstery repairers
8221 Antique dealers, second-hand furniture shops, art dealers, picture framers and dealers in stamps and coins
8222 Radio and electrical goods shops (excluding radio and TV rental and relay shops)
8223 Radio and TV rental shops
8224 Hardware, china, wallpaper and paint shops
8225 Cycle and perambulator shops
8226 Bookshops and stationers
8227 Chemists and photographic shops
8228 Opticians
8229 Jewellery, watch and clock retailers and repairers
8231 Leather goods, sports goods, toys and fancy goods shops
8232 Music shops (including gramophone records)
8233 Florists, nurserymen and garden shops
8234 Pet and pet food shops
8239 Other non-food shops

Group 25 – Dealers

(*N.B. Dealing in motor vehicles (new and second-hand, including motor cycles and caravans, is allocated to heading 8941 and not to the headings within this group*)

8311 Coal and oil merchants (not including bulk oil distributors or petrol filling stations)
8312 Builders' merchants
8313 Corn, seed and agricultural merchants; dealers in livestock
8321 Dealing in industrial materials
8322 Dealing in scrap and other waste materials
8323 Dealing in industrial and agricultural machinery
8324 Leasing industrial and office machinery

SERVICES

Group 26 – Insurance, banking, finance and business services

8600 Insurance
8610 Banking and bill discounting
8621 Stockbrokers
8622 Unit and investment trusts
8629 Other financial institutions
8630 Property owning and managing etc.
8640 Advertising and market research
8651 Industrial and commercial valuers, auctioneers and transfer agents
8652 Chartered or company secretaries (firms acting as)
8653 Computer services
8654 Contract cleaning
8655 Management consultants
8656 Staff bureaux and employment agencies
8657 Duplicating, calculating and typewriting agencies
8659 Other business services

Group 27 – Professional and scientific services

8710 Accountancy services
8720 Educational services
8730 Legal services
8741 Hospital and consultant services
8742 Local authority health services
8743 General medical services
8744 Dental services
8749 Other medical services
8750 Religious organisations

Trade Code	
8760	Research and development services
8791	Veterinary services
8792	Surveying (various kinds)
8793	Architects (private practice)
8794	Draughtsmen (private practice)
8795	Consultant engineers
8796	Research chemists, analytical chemists, assayers, non-medical bacteriologists, metallurgists and geologists (private practices)
8797	Professional and scientific representative bodies
8798	Artists, sculptors, designers, authors, journalists (free-lance) and composers
8799	Other professional and scientific services
	Group 28 – Miscellaneous services
8811	Cinemas
8812	Theatres, music halls, etc; radio and television services (excluding relay services), film and recording studios, etc.
8813	Performers and performing groups (drama, music, variety etc.)
8814	Radio and television relay services
8821	Dance halls and dancing schools
8822	Sport
8829	Other recreations
8830	Betting and gaming
8841	Hotels and other residential establishments
8842	Holiday camps, camping and holiday caravan sites
8851	Restaurants, cafes, snack bars etc. selling food for consumption on the premises only
8852	Fish and chip shops, sandwich and snack bars and other establishments selling food partly or wholly for consumption off the premises
8860	Public houses
8870	Clubs (excluding sports clubs and gaming clubs)
8880	Catering contractors
8891	Men's hairdressing and manicure
8892	Women's hairdressing and manicure
8921	Launderettes
8922	Laundries
8923	Hire of towels, linen and industrial clothing
8930	Dry cleaning, job dyeing, carpet beating etc.
8941	Distribution, repair and servicing of motor vehicles (including wholesaling, retailing and dealing in motor vehicles and caravans (new and second-hand), tyres, motor accessories and spares)
8942	Petrol filling stations
8950	Repair of boots and shoes
8991	Funeral direction, cemeteries and crematoria
8992	Photography and photographic processing
8993	Welfare and charitable services
8994	Public museums, libraries and galleries
8995	Political parties and associations
8996	Services of Commonwealth and foreign governments
8997	Trade associations and unions
8999	Other services
	Group 29 – Public administration and defence
9010	National government service
9060	Local government service

The Overseas Development Administration sponsors the UK contribution and Professor James is responsible for organizing and providing the teaching element.

The first planning seminar at the American University of Beirut was held in July 1970 and was attended by top decision-making personnel such as ministers and senior civil servants from countries throughout the Middle East. The seminar concentrated on the rôle of planning as part of Government machinery. Professor James was accompanied by Sir Desmond Heap, Andrew Derbyshire (Partner in the firm of Robert Matthew, Johnson-Marshall and Partners), Wyndham Thomas (General Manager, Peterborough Development Corporation) and Dr J L Taylor, a senior lecturer at Sheffield University. The proceedings of this seminar are to be published by Praeger later this year. The establishment of the planning courses in Beirut and Baghdad is a direct result of the success of the 1970 seminar.

The second seminar is to be held in April 1972 and the theme will be concerned with the planning process at a technical level. The teaching team will consist of senior lecturers and lecturers from the Department of Town and Regional Planning at Sheffield University and two officers of the Building Research Station including George Franklin, the instigator and supporter of most of Sheffield's Middle Eastern planning activities).

Experience from the 1970 seminar indicates that this form of one/two week intensive study programme is an effective means of stimulating 'planning attitudes' in Government circles. It also acts as a useful catalyst in merging the interests and efforts of planners into a more effective force.

Opportunities for Middle Eastern students at the University of Sheffield

In addition to the normal intake of twenty postgraduate students per year, five places are made available for students from Middle Eastern countries. The provision of these places and the cost of extra staff required for their supervision is financially supported by the Overseas Development Administration as part of their Technical Assistance Programme. Opportunities also exist for students to read for research degrees.

Middle Eastern students are subject to the same academic entrance and degree requirements as students from the UK and they take the normal course provided. Particular attention, however, is paid to the application and relevance of UK planning practices to the special conditions of their countries.

This year, there are five such students. Three are taking the two-year MA postgraduate course and two are working on research projects: Planning Education needs in the Middle East; and Transport in Saudi Arabia, with special reference to the requirements of the annual pilgrimages.

Brazil: urban planning as a function of national government

Morris Juppenlatz

In physical dimensions, Brazil is a land of 3·2 million square miles, extending between 35° West to 75° West longitudes, and 5° South to 32° South latitudes, i.e. tropical in the north to cool temperate climate in the south. *Diagram 1* shows the general distribution of forest and vegetation cover; *Diagram 2* gives a very general image of the settlement environment of the different areas of the country; it also shows how the settlement density is localized in seven main areas, all of which (except Brasilia) have penetrated the hinterland from the well-established ports. The population of the country in 1970 was 93·3 million.

The land was discovered in April 1500 by Pedro Alvares Cabral, and the country takes its name after the amber-red (brazier) wood, which was found in abundance, and which was used at that time for textile dyeing.

In 1532, King John III of Portugal established defence outposts, which were donated to Portuguese noblemen and captains. This developed into a system of fifteen inherited captaincies, (extending westward to the line of Tordesilhas, i.e. 50° West), which were given to twelve beneficiaries.

In summary, till the beginning of the nineteenth century, the colonial land of Brazil had been distributed among a privileged few, trade was based on a cycle of single product cultures, (first Brazilwood, in the period 1500–1550, followed by sugar-cane, then the gold era, coffee, then rubber, until 1900). The trade was always aimed at foreign markets, and slave labour was used extensively. Manufacturing had been almost totally prohibited in the colony until that time; official sources attribute the reason for this to the Anglo-Portuguese trade agreement which had prevailed all those years.

The change in the colonial structure of Brazil came about only after the Royal Family from Portugal transferred their court to Rio de Janeiro in 1808, because of the threatened invasion by Napoleon. With the ports opened up to all international shipping, the development of diverse manufacturing activities began.

In 1822, King John IV returned to Lisbon leaving his son, Crown Prince Don Pedro, in Rio de Janeiro as Regent. Don Pedro already had a sympathy with the local people, and immediately declared Brazil independent. By the second half of the nineteenth century, the Republican movement and the campaign to abolish slavery really got under way, and in 1888 slavery in the country was abolished by proclamation. After this, European immigration began to accelerate, especially from Italy, Spain and Germany.

The country was declared a Republic on 15 November 1889, under Marshal Deodora da Fonseca. Twelve months later, a Constituent Assembly was installed, and on 28 February 1891, the Federal Constitution of the Republic was promulgated; this had been shaped along the lines of contemporary liberal constitutions, notably that of the USA, with a certain amount of autonomy accorded to the separate states. The First World War saw a boost to industrial activity; by 1920, more than 13,000 industrial establishments were in production, more than 4,000 of which were in the State of São Paulo. With the readjustment to peacetime and the world financial collapse of the late 1920s, the Government found itself increasingly in difficulties in managing the economy of the State.[1]

In 1930, Getulio Vargas was brought to power. By 1937, he had dissolved Congress, the State Congresses and the Municipal Governments, amended the Constitution and instituted the new régime, the Estado Novo, which borrowed heavily from some European totalitarian régimes of the time.

This régime lasted until 1945, when Getulio Vargas changed the Constitution to permit Presidential elections. From 1930 to 1945, it is generally agreed that the economic and social policy which Vargas initiated, including an advanced concept for dealing with the labour problem, contributed to the development of Brazil. He encouraged the development of basic industry during his first period in office, and in the second period, 1950 to 1954, created the State oil monopoly, PETROBRAS; he did much to prompt State participation in the economy of the country.

The emergence of the planning process

Under the Dutra Government, 1945 to 1950, there was a period of political tranquillity, and the first attempt was made by the Government at rational economic planning, the SALTE Plan; Saude, (health), Alimentares, (food), Transportes and Energia (power).

What is significant in the growth of the planning process in Brazil is the extent to which the Government has assumed an increasing rôle in the economy of the country, both by Governmental control over private enterprise, and by direct participation through public or mixed economy corporations. It has long been recognized that development and expansion of the economy meant industrialization; in this there was no disagreement among the traditional landed élite, the new industrial élite, or the military government, over the need for 'planning' to control the whole process.

The fortunes of the traditional landed élite had generally been merging with urban banking, real estate and industrial enterprise, and there is every indication that they have not remained polarized around single interests.

During the period of 1956 to 1961, the

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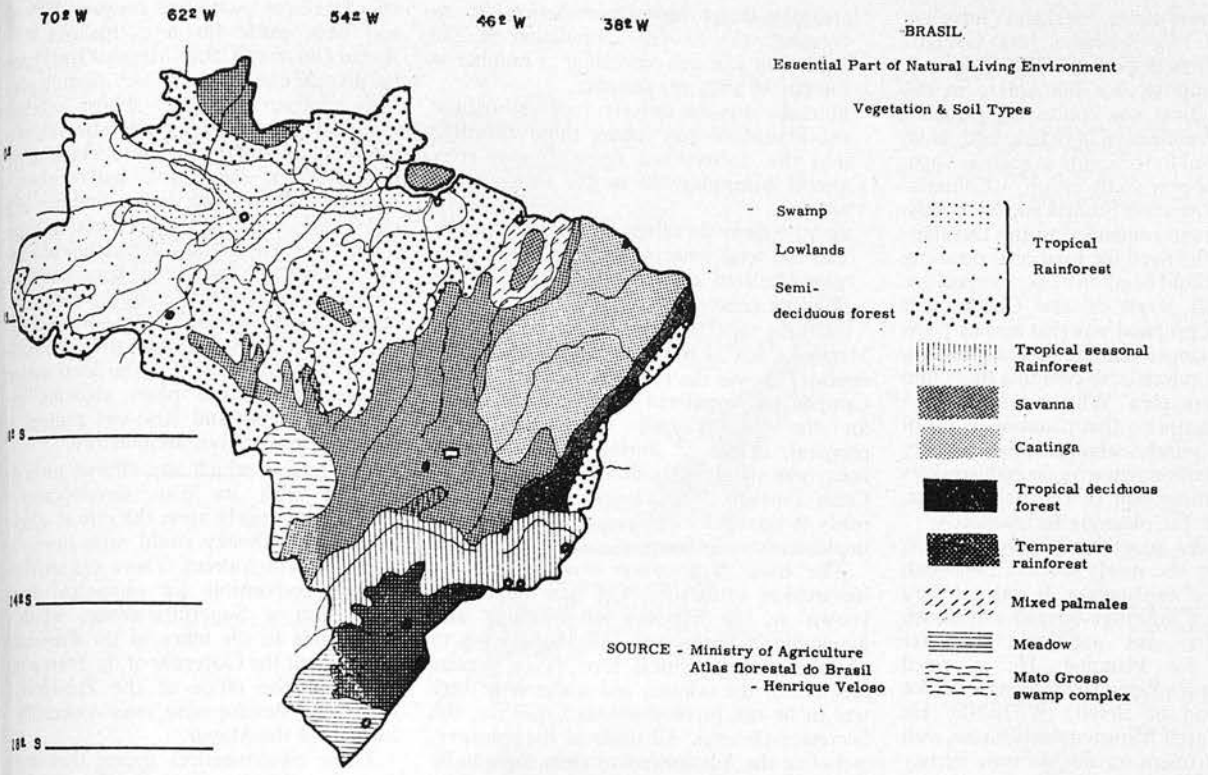
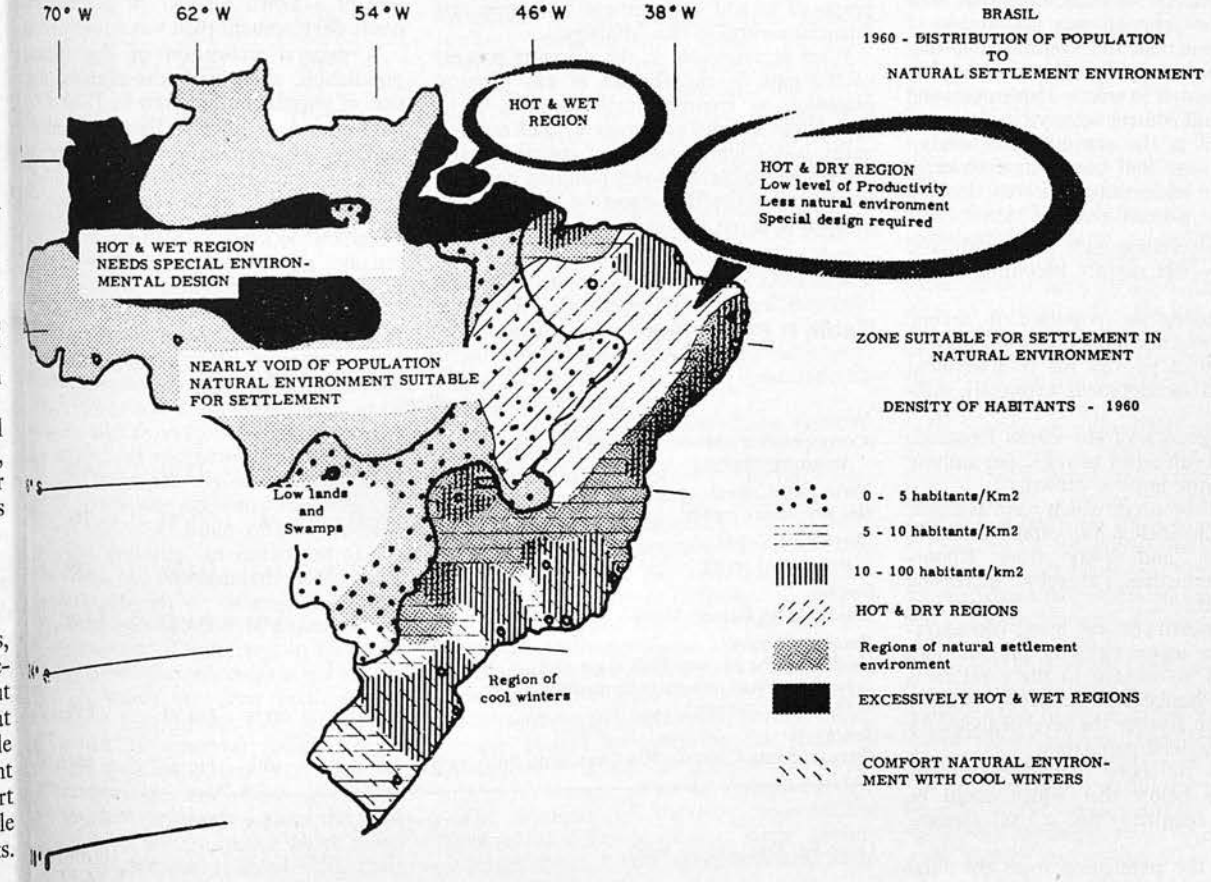


Diagram 1

Diagram 2



The rôle of Sheffield University in overseas planning

Peter Storrie

In an effort to meet the world-wide shortage of trained planners, the Department of Town and Regional Planning, the University of Sheffield, is giving assistance in the field of planning education to Middle Eastern Countries. The Department is involved in overseas planning in several ways:

1 establishing town and regional planning courses at universities in the Middle East;

2 operating annual planning seminars in Beirut in conjunction with the American University of Beirut and the Overseas Development Administration;

3 making special provision for the admission of students from Middle Eastern countries to the two-year full-time course at Sheffield, and encouraging research projects related to Middle Eastern situations.

Sheffield has chosen to concentrate its overseas planning efforts on the Middle East with the view that a degree of specialization is necessary in order to build up expertise with the particular problems of a specific region. It would not be practical to attempt to include Asia, Africa or the South Americas with their divergent socio-economic characteristics. The Middle East was a natural choice for the Department, following Professor James's work for the United Nations on missions in Saudi Arabia and Iraq.

Establishing courses in town and regional planning in the Middle East

Sheffield is currently assisting in the establishment of two planning courses for the Middle East—one in Beirut and one in Baghdad.

The first is offered by the Faculty of Engineering and Architecture in the American University of Beirut. Two programmes of study will be available; one leading to an MA in Planning and Urban Design, intended for holders of a degree in architecture who wish to extend their knowledge and design skill into the field of town planning; and an MSc in Urban Planning for those holding a Bachelor's degree in Civil Engineering, Economics, Public Administration, Sociology or other approved related subjects. Both degrees would require two academic years of study including the session during the intervening summer.

Sheffield University will provide a home based senior lecturer to be resident in Beirut for the first five years. His main responsibility will be to help organize the course and lecture on urban and regional planning. This appointment will be provided by the Overseas Development Administration as part of their technical assistance programme in the Middle East. In addition to the Faculty of Engineering and Architecture, the Faculty of Arts and Sciences at the American University will provide facilities for the new course. The first students will be admitted to the course on urban design in February 1972.

The Baghdad course in urban and regional planning is being promoted by the Government of Iraq and will be offered in the University of Baghdad. The establishment of this course follows a UN report prepared by Professor James containing recommendations relating to urban and regional planning in Iraq.

Under the chairmanship of Professor James an Advisory Board has been set u to assist the Iraqi Government in organiz ing and recruiting staff for the future course The Board consists of Lord Llewelyn Davies (Dean of the Faculty of Environ mental Studies and Professor of Urba Planning, University College London) Sir Desmond Heap (Comptroller and Cit Solicitor, City of London); and Sir Rober Grieve (Head of the Department of Tow and Regional Planning, University o Glasgow). One of their first tasks has bee to appoint a Director of Studies and fou Professors. Alasdair Sutherland, Senio Lecturer in Sheffield, has been given on year's leave of absence from the Universit in order to help launch the project whic will be open to students early in 1972.

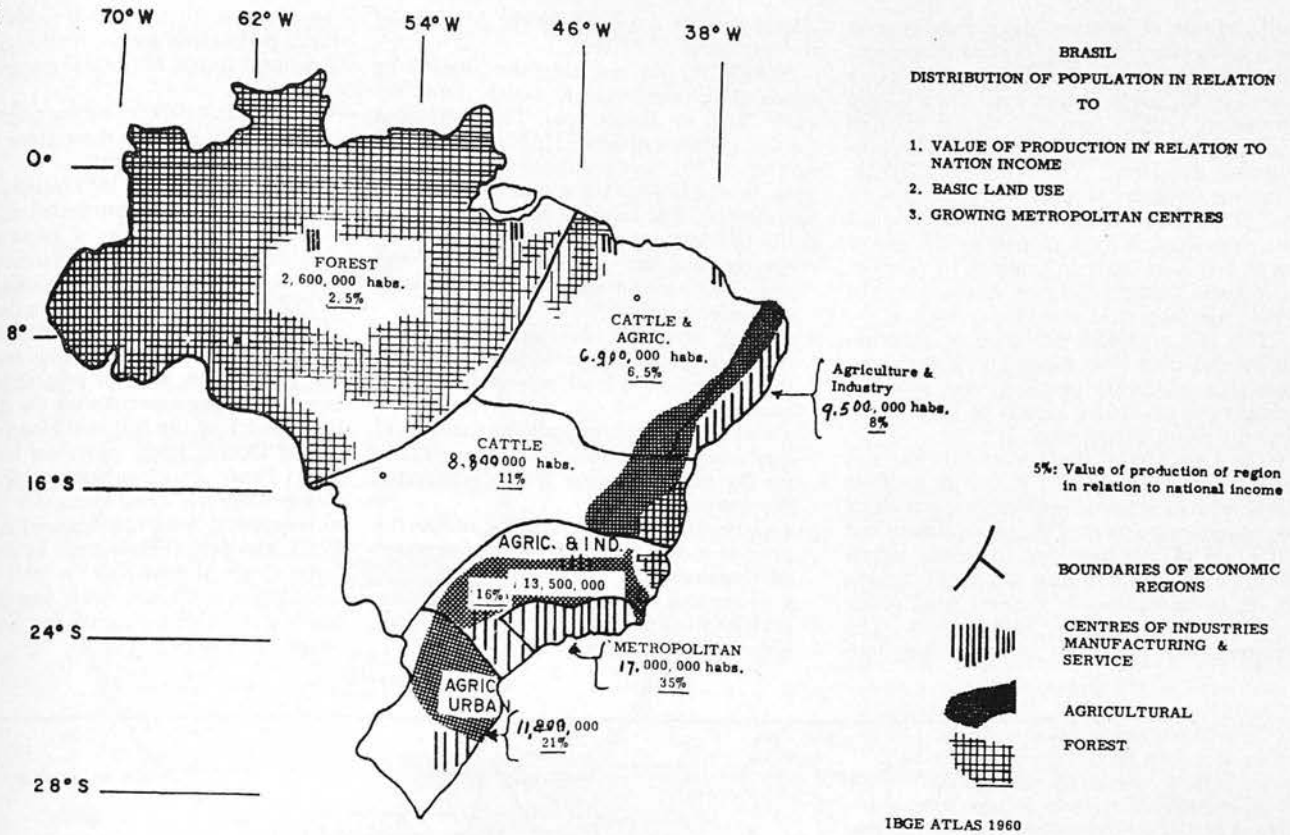
The Department of Town and Regiona Planning, besides sending staff abroad provides a continuous advisory service fo such items as library acquisitions, slide and course structures.

Urban and regional planning seminars in Beirut

As a service to Middle Eastern countries the Faculty of Engineering and Architec ture of the American University of Beiru organizes study programmes aimed a bringing together personnel responsibl for national and regional developmen plans. Seminars are arranged in an effo to increase contact between Middl Eastern planners and visiting UK expert

Seminar at the American University, Beirut, 1970

Peter Storrie, DipTP, MRTPI, is a Lecturer in Town and Regional Planning, University of Sheffield



gram 3

Brazilian Institute for Geography and tistics) 1960.[7]

What is of particular concern to the Governnt is the estimates of future population wth, and the shift of the essentially rural lers to the urban centres. The following imates were made by the Ministry of Plang in 1968 and the figures were approxiately confirmed by the 1970 census. *(Figures en in millions)*

	Urban	*Rural*	*Total*
o	31·6	38·5	70·1
o	48·2	45·1	93·3
o	70·5	52·5	123·0
o	100·0	61·9	161·9

One demographic trend which should be ed is that by 1970, more than 50% of the ulation were children, who were under the e of 18,[8] and therefore in need of education, per nutritional intake, proper shelter art from a decent urban environment), and great majority of whose parents were in the est income group—a minimum salary of proximately £17 sterling a month—and erefore, paying no taxes. If these social needs going to be satisfied, there will need to be increasing allocation from federal budget to ure a stable and prosperous future for the ntry. The trend also gives an indication of rate at which the economy must be exded annually, the value of real product reased and, possibly, an indication of the ent to which the Government needs to be to participate in, or control, the actual nomy, and direct the flow of money.

The Government of 1964 was in no doubt to its objectives, though there is no written ument to which one can turn, except haps the *Ato Institucional*, the Constitution of the new Government, which simply ted that the objective of the Revolution was restore economic and financial order; ther were there any doubts about the scale complexity of the problems which faced m. The government realized that their goals had to be formulated in a quantitative way and this would have to be followed by the introduction of a system for planning, the implementation of which would be dependent upon the human resources and administrative skills available. In many respects, they arrived at a conceptualized model for a 'system of planning' not unlike that devised by Saul M Katz,[9] in which these action systems provide inputs, outputs, components and constraints for each system of action, which included the manpower system, finance system, logistics system, participation system, legitimate power system and the information system. Around their conceptualized model, the EPEA[10] began work on the design of a national investment matrix, using a programmed and planned budgeting system for both monitoring and predicting the use of resources then available to the Government.

The present Government's Plan is more in the nature of flexible overall guidance than a set of rigid directives; Presidential Decrees and Ministerial Directives are provided generally to permit the initiative of working groups to attain their specific goals, and the Ministry of Planning monitor progress quantitatively against their prognosis.

The two basic objectives of the Government's plan are to:

1 harmonize Government and private enterprise action in areas of joint interest;

2 co-ordinate Government plans, especially in so far as sector investments are concerned.

The Government has two main regional development planning programmes: SUDENE and SUDAM (i.e. the *North-East* and the *Amazonas* regions). These agencies execute Government plans in their own areas and encourage private investment by extending tax concessions and incentives; in these areas, for any project approved by the Regional Development Agency, an investor may apply 50% of his income tax to the investment.

The Minister of Planning co-ordinates Government Policy in finance, taxes, foreign exchange, trade, wages, agriculture and land, housing, education and, more recently, urban integrated planning. The Minister has no restraining authority over these areas of the Administration; its only rôle is to assist the President and his Government in reaching decisions that will harmonize overall action.

The present urban planning process

The present urban planning system has grown from an endeavour by the present government to satisfy a social need for housing.

On 21 August 1964, the Government enacted Law No. 4380, creating a National Housing Bank, and a Housing and Urban Research Agency, SERFHAU, initially under the Ministry of Finance, but later transferred to the newly created Ministry of the Interior in 1965. The Government did not, however, appropriate any funds from the national budget to capitalize the Bank, but did provide Central Bank guarantees for its operation. The Law specified that 60% of the houses constructed were to be occupied by the low income group. The BNH directorate and the Ministry of Planning then drew up the National Housing Plan,[11] which was endorsed by the Government.

By September 1970, BNH had constructed 665,600 dwellings, more than 1,000 municipalities had concluded contracts for the installation of a water supply, 103 municipalities had taken out loans from BNH for the preparation of comprehensive physical, social and economic development plans, and several municipalities had taken out loans from BNH and commenced work on sewerage programmes.[12]

The President of the Bank estimated in 1969 that, by 1972, the capacity of the water supply systems then being installed would serve 51 million inhabitants, and that, by 1980, 80% of the total urban population would be served.[12]

The programme had already produced other benefits to the country by the end of 1970; rents were beginning to come down, building costs, though still rising, were rising at only

Government was under President Juscelino Kubitchek and Vice-President Joao Goulart. It was during this period that BRASILIA, a new national capital as a monument to the spirit of the nation, was conceived, planned, and begun. President Kubitchek had been aware of the need for planning as early as 1956. He appointed a new study group, a Commission for Administrative Studies and Proposals, (CEPA) which recommended to the Development Council the need for a national planning agency which could begin to engage in positive planning at all levels of the Government hierarchy. The proposal was that agency plans were to be developed and the central planning agency would undertake to combine these into a 'general organic plan'. What is evident is the underlying assumption that planning in Brazil was to be a purely administrative activity reserved for the administrative decision-makers with little participation of the politician or, for that matter, the planning technicians.[2]

In 1961, a few months after taking office, Janio Quadros, the newly elected President, resigned without explanation. It was not until 1962 that the Cambridge-trained economist, Celso Furtado, was appointed Minister Extraordinary for Planning. He is noted particularly for his Regional Planning work for the NE Region of Brazil, SUDENE. He proposed that each Minister establish his own planning department to do his own agency planning, and that a representative be nominated to sit on each of the five planning Committees of the Ministry of Planning, namely Global Planning, Sector Planning, Social Planning, Regional Planning, and the Committee for the Co-ordination of Foreign Aid. This was to prove too unwieldy to be effective, especially under the unstable circumstances of the Government at that time.

The Furtado proposal was designed to emphasize the process of innovative planning within the agencies of government, but (possibly reflecting the negative reaction to his super-ministry idea), it contained no definitive machinery for implementation. The strength of the proposal was the degree of political participation and commitment that was built into the plan-making process, but this was not enough to ensure implementation without a central control agency.[3]

As described in the previous case study,[4] the affairs of state had begun to deteriorate without proper leadership, and were looking hopeless from a national point of view:

inflation was reaching 12% per month, and the currency was rapidly becoming valueless;
the habit among the populace of 'saving' money had been abandoned, thereby making accumulation of savings for re-investment into national development extremely difficult;
the rate of growth of the Gross Domestic Product had run down to 1·5% per annum, permitting little hope of growth;
the financial resources which were available were being channelled into capital-intensive undertakings, and away from labour-intensive industries, thereby increasing unemployment;
industrial investment was being concentrated in a few major cities in the southern regions, and investment in the rural areas had been noticeably reduced, thereby lowering even further the level of living for the vast hinterland population;
real income of more than 80% of the families was below that which could be considered adequate for a 'subsistence' level;
the shift of the population from the rural areas to larger towns was noticeably increasing; the *favelado* population in São Paulo and Rio was increasing in number at the rate of 10% per annum;
illiteracy was excessively high throughout the hinterland and among those crowding into the shanty-town *favelas;* many were almost unemployable in the metropolitan areas;
eight million dwellings, i.e. approximately half the total housing stock of the country were declared unfit for habitation by the 'housing census' of 1960.

In 1964, the Military took control, and Marshal Castello Branco accepted the Presidency. This was the 1964 Revolution. Roberto Campos was appointed Minister of Planning for the Revolutionary Government. His proposal, developed during the summer of 1965, was significantly different from that of Celso Furtado. The Government was now ready to establish a professional planning and implementation process.

The basic organization was a model of hierarchical rationality; the new office was known as the Ministry of Planning and Economic Co-ordination. The Minister was to operate at the political level, as a regular member of the cabinet, and under him there was to be the professional staff director, the Secretary-General. All units of the ministry, including the Administrative units, were to be under his jurisdiction.[5] There were to be three basic units:

(i) co-ordination of budget and finance;
(ii) co-ordination of sectorial planning;
(iii) long-range planning.

This proposal was intended to formalize what was already taking shape in the reconstituted ministry. The long-range planning office already existed as the Office of Applied Economic Research (EPEA), and various sections of this unit had participated in creating the Government's 'Programme of Action'. What was to be added, however, was a real innovation in Brazilian planning: it was proposed to add Government budgeting and financial control to this Ministry.

What is noticeable in the planning process of the past, is the absence of any physical planning or environmental planning as a function of national government. Each municipality had a high measure of autonomy, and the responsibility for town planning devolved entirely upon the Mayor and the local Council, if they were so inclined (and if they could afford to have such plans prepared). Provision had been made for municipalities to have *Planos Diretores* (Urban Master Plans) prepared by private consultants. Such master plans as were prepared, were almost exclusively 'physical plans', without any estimates of cost involved, or possible benefits which might be derived from the 'plans' and without any measure of social needs, or outlines of programmes needed to readjust social imbalances. They were without any indication of employment needs, or ways of creating employment opportunities (whether from industrial or other sectors of investment), or ways of expanding the local economy; they showed little regard for the budget of the local authority. In fact, they were plans showing mostly road alignments and land-use zonings, with some content of civic architecture.

The rate at which any city or town could proceed with its own development was dependent entirely upon the rate at which the municipal authority could raise money from its own local resources. There was no Ministry directly responsible for municipal development, but a Superintendency, which was responsible to the office of the President; to some extent the Governor of the State acted on behalf of the office of the President, but municipal development was essentially the concern of the Mayor.

These circumstances meant that in 1965 the great majority of the 4,000 municipalities of Brazil could not raise the finance necessary to provide piped water supply to the houses of the towns; often, no proper surface drainage system existed, there was no sewerage disposal system, no refuse collection or disposal system, most of the roads were not paved or properly drained, and the prospects for raising money for promoting local enterprises, for creating more employment, providing educational and health services to the citizens, for expanding the flow of cash throughout the municipality, were extremely bleak. The possibility of raising enough money to pay the fees of a Town Planner to prepare an adequate development plan was equally remote.

A general indication of the increase of population, along with the regional distribution of population, is given in *Table 1.*[6]

Diagram 3 shows Brazil divided into regions, with population and the percentage value of production of the region in relation to national income, according to census returns and information extracted from IBGE Atlas

Table 1: Population

	Pop. 1960 (million)	%	*Pop. 1970 (million)*	%	*Area Sq. Kms. ,000*	%
North (Corresponding approximately to the Amazonas region.)	2·6	(3·8)	3·5	(3·8)	3,489	(41·5)
North East Central Hot dry desert region	6·9	(9·8)	9	(9·5)	722	(8·5)
North East Coastal Warm humid sector	9·5	(13·5)	11	(11·8)	256	(3·3)
Central (Bahia, Mato Grosso, Goias.)	8·8	(12·6)	12·3	(13·5)	2,439	(28·5)
Southern Central (Including the Metropolitan areas of Rio and São Paulo, which accounted for 17 million in 1970.)	30·5	(43·5)	41·5	(44·2)	978	(11·5)
South (Parana, Santa Catarina, Rio Grande do Sul.)	11·8	(16·8)	16·8	(17·2)	562	(6·7)
	70·1	(100%)	93·3	(100%)	8,456	(100%)

(*3·75 Sq. Kms. = 1 sq. mile*). (*Thousand Sq. Kms.*)

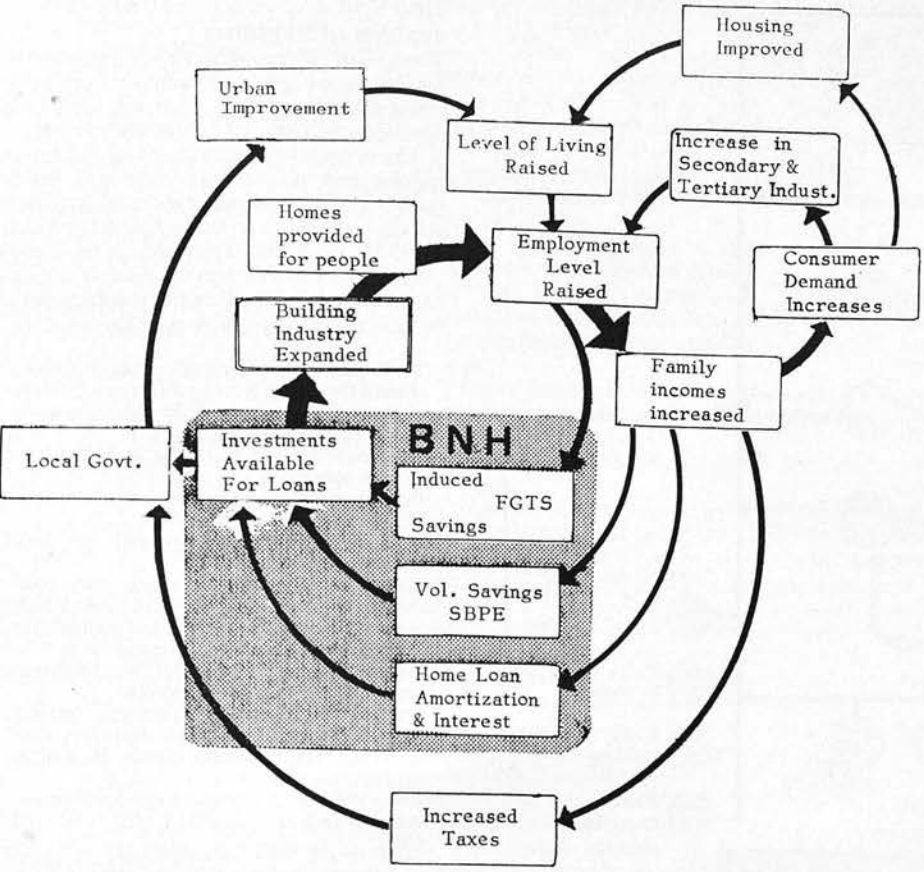


Diagram 5 shows the effects of BNH as a stimulating, strengthening and integrating organization that increases employment opportunities, augments family incomes, improves community and urbanization facilities, raises levels of living and provides more savings for expanding the cycle of investment

Local integrated planning was to embrace all economic, social, physical and institutional aspects of the municipalities within their micro-regions, and was to be completely comprehensive in its execution.[13]

The efforts which are now being made by SERFHAU to rationalize the urban planning procedure for Brazil have been derived from a sequence of operations over the past five years, beginning with:

(i) The initial strategy adopted by the BNH and the Ministry of Planning, from which the National Housing Plan was drawn up;
(ii) The home financing system, by which BNH was capitalized, and which was able to finance SERFHAU and provide the loans for the preparation of the plans;
(iii) The recognition that housing was part of the urbanization process, and as such, was viewed as a system of systems by the BNH and the Ministry of Interior;
(iv) The parameters of a national urbanization policy were defined;
(v) The information system for integrated development, as an instrument for assisting in decision-making in the total planning process, was designed and put into operation;
(vi) The procedure for evaluation and implementation of the local integrated urban plans was established.

The urban planning process is concerned mainly with exploiting all available resources, by means of persuasion and incentives for the private sector, and by direction of the Government sector, for raising the standard of the urban living environment of the whole nation. The financial aspects relate back to the Ministry of Planning.

The initial strategy

The strategy which was adopted for the Housing Plan is to be found in the selection of the following variables, each in a situation which is subject to mutations through inflation and the process of development in a developing country:

labour absorption by secondary and tertiary sectors;
increase of investment into housing, as a means of activating the building industry, specifically using labour-intensive techniques for the maximum absorption of labour in the first phases;
increasing saving capacity, initially under a compulsory form, and then through the increase of purchasing power of the population, in which the resources for reinvestment are collected by a system of free savings.

It was hoped to accomplish the strategy by setting up an organization which would be responsible for:

the collection of resources;
the promotion of investments;
the capitalization of the resources at equal or higher rates, in comparison with the rate of increase of population and urbanization.

This required a 'systems analysis approach', in which several systems, interdependent upon one another, were involved; each had to be identified and recognized as a flexible system in itself, suitable to the restraints provoked by action, in which both planning and execution were integrated. Within the concept of the objectives, the development of the consequent action was to be dependent upon the extent and the ways and means available, for extending the individual BNH programmes; these had to be planned to become self-stimulating and self-supporting.

For the process to be self-supporting, however, the housing market had to be increased, which meant that the means of satisfying the basic needs of newly formed households, especially as such needs relate to housing and urban services, had to be provided. Such an objective can be obtained on the one hand by reducing the final costs of housing, and on the other hand by increasing the family income, as a consequence of the development of the economy on an increasing scale and at a rate higher than the population and urbanization rate, the former being estimated at 3·2% per annum during the 1960–70 decade, and the latter 5·4% per annum.

The enlargement of the market would also result from a policy of encouraging savings, and adjusting the rate and terms for amortization of the housing loans by calculating a reasonable amount of the family income per month for repayment.

In short, this strategy aims at using the controllable forces of the urbanization process to generate both a process of positive and cumulative circular mutual relation of cause and effect, and the resources needed for the progressive expansion and satisfaction of the basic needs of the population, as illustrated in *Diagram 5*. Each component comprises a matrix of quantifiable information, and the impact of any amount from each first matrix in the cycle upon the second matrix can be measured quantitatively. It illustrates the cycle of BNH investments which can provide self-generating effects on the economy to:

MAKE CAPITAL AVAILABLE FOR
home loans
building industry
local government
which in turn stimulate the
BUILDING INDUSTRY
which increases the number of dwelling units, the process of which
CREATES MORE EMPLOYMENT
which results in an additional number of employers contributing 8% of the payrolls to further capitalize the Home Finance System through FGTS.[14]

The increase in employment opportunity for those in the minimum salary scale (which has been monetarily corrected against inflation to preserve the real value, and automatically to cover rises in the cost of living), increases the capital flowing into and through family incomes, which provides an increased capacity for more families to:

(i) save and invest in the Savings and Loans System;
(ii) amortize their BNH home loans;
(iii) pay taxes for public services to the local authorities;
(iv) circulate more money into consumer industries, thereby creating the opportunity for further 'minimum salary' employment.

The demand for household and domestic consumer goods increases, and though this is often seen as a market for the large automated manufacturing plants in the big cities, it also provides an opportunity for small-scale local enterprises, by which local economies can be expanded. The net result is a trend towards increasing employment levels still further, as more money is being circulated for consumer and service industries.

The home financing system

At the beginning of 1966, the Government and BNH formulated a new labour law which consolidated the employer's tax contribution at 5% of the pay-rolls (to be used in general expenses) and 3% of the monthly pay-roll (constituting a fund for investment). This

half the rate of inflation, more than 500,000 new jobs a year were being created throughout the total building industry, 30,000 workers were being given education, literacy and specialized training, and this was scheduled to increase to 100,000 per annum as the programme developed. The resources available from the voluntary savings campaign, through the Savings and Loan System, had reached the equivalent of £300 million by the end of 1970, and were likely to continue to increase. The home construction rate, financed by the Bank, was more than 100,000 per annum.

This is a creditable achievement quantitatively, and apart from asking how it was done, one also asks what provision was made to protect the qualitative aspects of the housing and the urban environment.

The Directors of BNH were only too well aware that housing, either in unit or multiple form, with its financial implications, was also a significant component of the physical form and structure of a community (the built urban form), and that the human and family content of the house was part of the very spirit of life and prosperity of the local society. The responsibility for urban planning had been almost entirely delegated by the Minister of the Interior to SERFHAU.

SERFHAU was created by the same law by which BNH was created, namely Law No. 4380, dated 11 August 1964. The regulations for the operation of SERFHAU are contained in Decree No. 59.917, dated 30 December 1966, in which 'local integrated planning' was first defined. The terms of reference, as spelt out in the decree, were as follows:

1 carry out the necessary surveys and researches necessary to obtain the objectives of Government;

2 make proposals for the 'norms' and standards which should be incorporated in the preparation of local integrated development plans;

3 make proposals for administrative and legal instruments which would be necessary for the implementation of local integrated development;

4 carry out the necessary studies, analyse the projects and plans related to local integrated development;

5 advise and technically assist the entities, at all levels of government, who are responsible for local planning;

6 promote the training of technical personnel, particularly for the implementation of a national system for local integrated development;

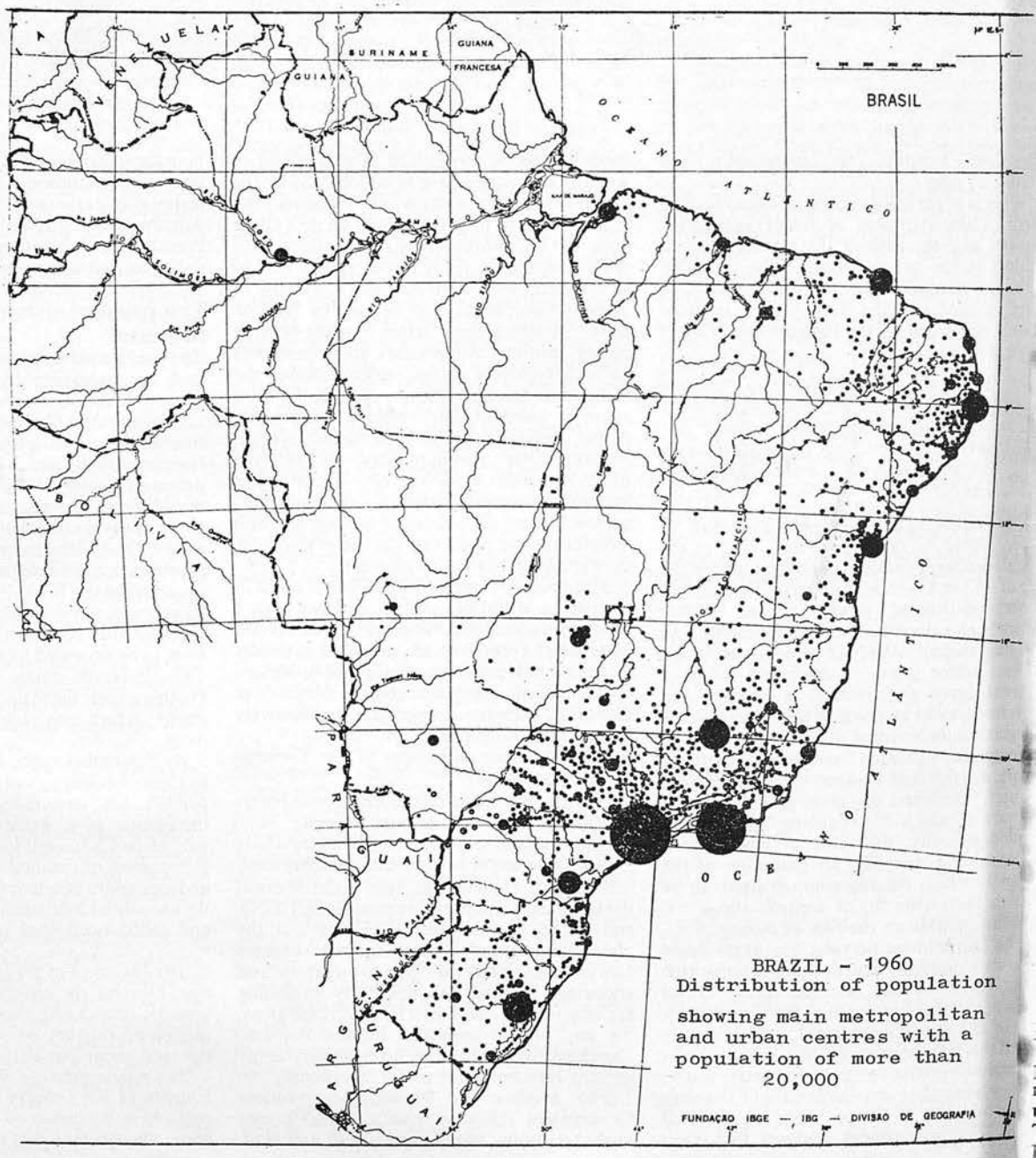
7 co-ordinate the planning activities, at all levels of government, of those concerned with local development;

8 widely distribute information concerned with planning local integrated development assembling the sources of information, publishing data on plans, researches, methods and techniques, and other information.

The law also spells out, that in the execution of its terms of reference, SERFHAU should concentrate on global planning, co-ordination and supervision, and its programmes should be ratified in agreement with the Administrative Council of the National Housing Bank.

The Decree made provision for a special fund, *Fundo de Financiamento de Planos de Desenvolvimento Local Integrado* (FIPLAN) to be created from the financial resources of BNH, and further supported by international loans, financial resources available from local institutions, and such other incomes as may become available through taxes, commissions, interest and so on.

Diagram 4



System of research and development
CENPHA—Socio-economic researches
CBC—Modular co-ordination, building codes, rationalization of construction industry
CIPHAB—Industrial co-ordination

System for personnel formation and training
Training Courses
SBPE (Brazilian Savings and Loan System)
Mortgage management
Project analysis
Planning
Local and Urban Development
Courses for manpower formation

System of operational research, analysis, and control
Survey, follow-up and control of costs;
support for the design and execution of low to middle income housing;
Population, housing and Urban Census;
Continual research into housing market and rent paying capacities;
Data Bank for Planning:
(a) Urban infra-structure and physical development
(b) Housing
(c) Community development
(d) Optimizing BNH investment through its own 'Planning and Co-ordination Department'.

Because of the nature and scale of the new resources available to it, the BNH was required to play a major rôle, with SERFHAU, in establishing the basis for a national policy for local integrated development. This focus on local integrated development resulted from the need for new communities to be developed under conditions which would permit an adequate way of life for the people involved, by satisfying their need for food, education, health, work and housing, and providing facilities for recreation, transport and communication.

The National Housing Bank had to face the problem not only of upgrading the levels of living for families in the new communities, but of preserving the liquidity of the investments of BNH, since, under the FGTS law, the Bank has changed from a capital institution to a bank for deposits. With a greatly increasing scale of investment activities, it became necessary carefully to select from numerous alternatives, a method which would cause these investments to stimulate economic activities, and make the most of the social benefit, while avoiding the creation of inflationary pressures.

Parameters of an urbanization programme

In 1969, Dr Mario Trindade defined the premises on which a national urbanization programme for Brazil should be based. These were later adopted by the Government, through the gradual linking together of all the government agencies concerned, and the effective co-ordination through the Ministry of the Interior, and the Ministry of Planning, will take time. The programme is designed to:

1 stimulate the orderly urbanization of the Brazilian population;
2 retard the excessive over-concentration of 'megalopolis' by planned urbanization;
3 promote the progressive occupancy of the national territory;
4 promote the systematic change in the structure of rural-urban employment;
5 reduce the differences between the incomes and levels of living of rural and urban population;
6 establish interdependent city-country areas, penetrating the Brazilian hinterland by means of successive 'urbanization borders' supported by existing or new poles of development;
7 concentrate rural population at new urban nuclei so that they may have access to food, education, health, work, housing, recreation, social assistance facilities;
8 develop action based on new community centres supported by production from agro-industrial, agricultural and cattle-breeding activities;
9 use the micro-region as an instrument for quick policy implementation;
10 use available means such as mass communication to stimulate and persuade people capable of management to participate;
11 give opportunities for high and medium level technicians to participate—involve universities;
12 search out all forces which will co-operate.

With the use of the urban information system which is now being established in the BNH and SERFHAU, 'urbanization policies' can now be formulated in a very comprehensive way. These are drawn from the determinants and consequences of population distribution, their productivity, wealth generating capacity, and trends of social and economic behaviour, and are related to geographical zones and localities throughout the entire country. The use of electronic data storing and processing, facilitates the rapid retrieval, analysis and synthesis of trends throughout the rural-urban structure of the nation.

The critical variables in respect of the urbanization programmes of the future will be found in the rate of growth of the various towns and cities. They are related to the rate of capital formation of each urban nucleus, the existing standards of urban infra-structure and fixed assets, and the extent to which they need to be raised from the standards of service and operation which are available at present in the towns or cities.

Information system for integrated development

In 1969 it was estimated that during 1970, the transfer of an equivalent or even higher amount than £270 million, with which BNH could make contracts, would produce at least the equivalent of £540 million of investments into the different financial systems managed by BNH. In fact, these figures proved to be on the low side.

Such a level of annual investment makes this sector one of the most important for sustaining, and accelerating the economic development of the country, because it is being channelled into the fixed assests of urban and rural communities. This investment was being used systematically to raise the levels of living of an increasing number of families, and was also being matched with investment which was aimed at encouraging higher productivity per capita. It lays a foundation tied to investment into fixed assets, by which employment opportunities can be improved systematically in the different communities throughout the regions. However, to obtain benefit from such an investment programme, planning on a spatial and/or geographical basis (with varying scales of incentive and stimulus) had to be introduced and incorporated into the National Housing Plan.

It was envisaged that this could be done with assistance from an information system, carefully designed to permit rapid retrieval and comparative analysis of much quantitative information concerning the town in question and the contents of plans and programmes which were proposed. This system should be designed in such a way as to allow for easy and continuous evaluation of the impact of the investment upon the economic and social situation of a community so that it can be measured or monitored, and investment policy and action can be adjusted to make the best use of the money.

The National Housing Plan in action has to be monitored continually in the total context of the economic development of the nation. Its investment into any sector of the cash flow of a community, can be—and needs to be—quantitatively measured.[16]

Diagram 7 shows in sketch outline the interaction of the cash flow throughout the various sectors of productivity, family income, flexible assets and fixed assets in the financial cycle of a community. The level of living of the occupants of a community can be correlated with the capital stock *per capita* of that community, which in itself can be a useful guide for analysing the comparative standard of all 4,000 municipalities, and identifying priority areas of needs. Over a period of time, trends of change of circumstances can be monitored and analysed at national level, and remedial action taken by re-allocation of resources through the controllable variables, e.g. government spending.

Such a gross model contains many sub-systems, such as the interaction of family incomes, family budget spending habits, with local consumer transactions related to local trade balances. These could usefully be developed as a simulation model for testing the effects of alternative investment strategies, presuming the authority had sufficient influence over the monetary flow throughout a community.

In late 1967, BNH and SERFHAU began to examine the problem of designing an information system suitable to their needs, and realized that for the BNH, the System needed was in two parts:

(a) that part concerned with the cash flow and balance through the various portfolios of BNH, and the distribution of the investment into the several municipalities (or geographic locations), along with an evaluation of the quantitative contribution which the investment is making to the housing needs of the locality,
(b) that part which shall provide for an extension of the System to receive the summarized data from other information centres, such as information concerned with urban inventories, status and capacity of the building industry throughout the country, national accounts, levels of living and information concerning the programmed budgets of the Federal, State and Municipal governments.

By the end of 1970, under the direction of Dr Estelita Lins, a gross mathematical model for the 'operations' of BNH had already been completed, and was designed as a linear programme for use in computers.[17] A Data Processing Centre is now being established in BNH, which will correlate the various computer programmes, and a Central Control Room has been designed, and is probably now in operation. Several different computer programmes for stimulating alternative investment strategies for optimizing BNH investment to national benefit are also being designed within the system.

The Urban Information System in SERFHAU, CIDUL, has been developed under the direction of Dr Mario Dias Lopez, and is now operational.[18]

The control of such a quantitative programme involving investment into any one of 4,000 municipalities, and influenced by so

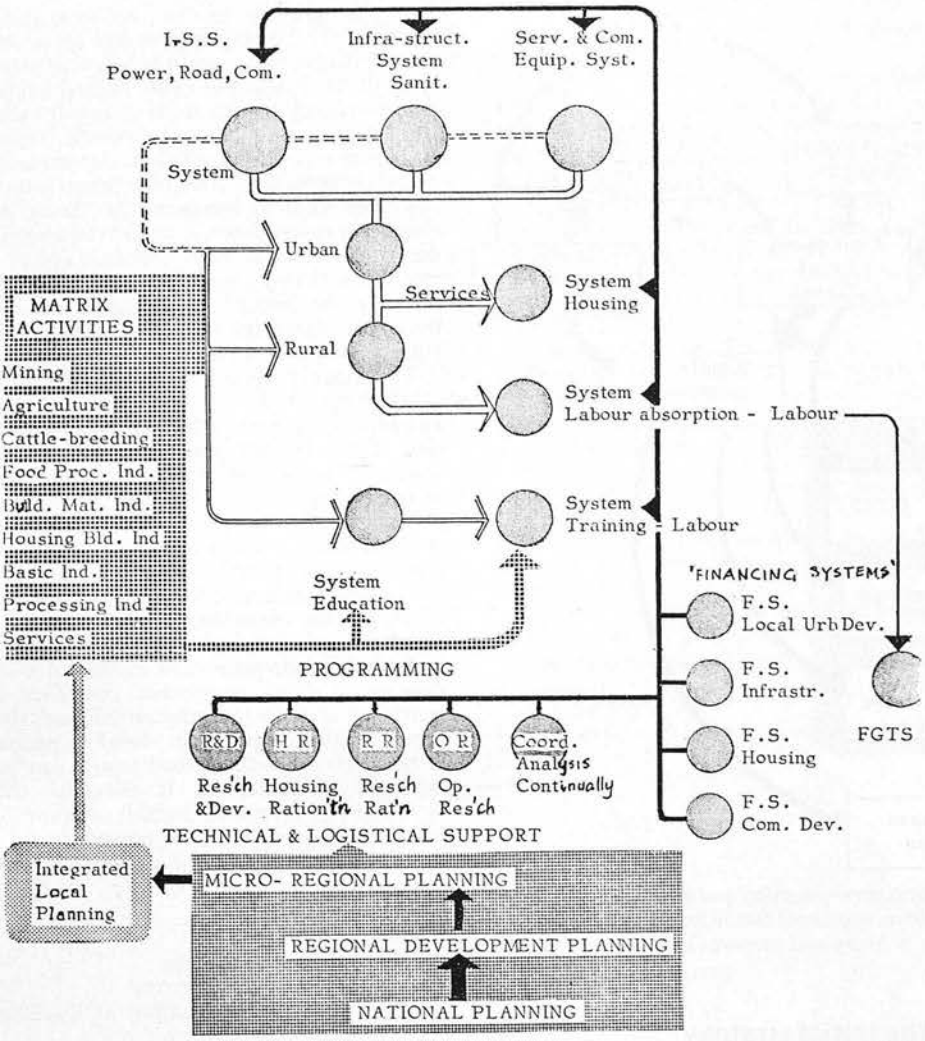


Diagram 6: the 'system of systems' – lecture given to the Superior War School by Dr Mario Trindade, July 1969

fund, named FGTS (*Fundo de Garantia de Tempo de Servico*), is financed by contributions from the employer, who pays 8% of the payroll and indemnifies employees against unemployment.

Those employees who have chosen indemnity under FGTS have their account protected in their own personal name; for those employees who prefer to be governed by the old labour law, the employer holds their account in trust.

The resources of FGTS were made available for BNH to use for 'housing investment' from 1967, and lately, for the financing of Integrated Urban and Local Government Planning, Sanitation (water, sewerage and pollution), training for workers, research and development, training of technical personnel, activating industries for building materials, and building construction. With investments exceeding the equivalent of £600 million in 1970, and an annual budget approximating to £400 million, the BNH is now the second largest Bank in Brazil, and contributes significantly to strengthening and stabilizing the economy.

The re-activation of the construction industry had a cumulative effect, and it soon became a leading sector in the renewal of the economic development process. During the period of the creation of BNH, and contrary to the expectations of many traditional economists, as to the feasibility of the National Housing Plan, (especially those who regard housing only as a consumer product) inflation was gradually restrained, as is indicated by the figures below:

These results were obtained by the application of 'monetary correction' in a general way, but particularly in the sectors of the economy where it is necessary to collect savings. Here, in consequence, there were no inflationary effects. This policy did much to re-establish the economy of the nation on a realistic basis.

Because BNH made use of the resources of FGTS it was possible to create the Brazilian Saving and Loan System, which began to finance middle-class housing, employing the techniques of 'seed' capital for inaugurating Savings Associations, which, used this way within the National Housing Plan, stimulated capital formation.

Year	*Inflation %*	*Growth of the Gross Domestic Product*
1963	73·7	1·5
1964	90·8	3·0
1965	57·1	4·5
1966	38·5	5·0
1967	28·6	6·5
1968	24·0	8·4
1969	21·4	9·0

Housing and urbanization—a system of systems

The means of providing an adequate system for integrating housing investment with urban development, and with economic and social development, required further elaboration.

The concept of the synthesis of the several policies and programmes envisaged in the Initial Strategy was portrayed as a 'system of systems', and this was outlined by the President of BNH, Dr Mario Trindade, in his lecture 'Aspects of the Problem of Socio-Economic Development in Brazil' at the Escola Superior de Guerra, 28 July 1969[15] see *Diagram 6*.

> In short, the experience of 43 months' work, showed the necessity for establishing a 'System of Systems', which would be able to provide the necessary components towards:
> the production and marketing of houses its own operations
> the promotion of urban infra-structure facilities e.g.
> water, electricity, sewerage (all of these resulting from studies)
> planning of integrated urban and local development, methodological definition which will enable better techniques and methods for financing, and allocation of resources
> training of technical personnel, 'alphabetizing' and training unskilled manpower
> creation of managers, planners, project analysis experts, mortgage managers, researchers, programmers, experts in budget programmes, and
> the establishment of research and development centres, such as CENPHA, CIPHAB and CBC.

Such a 'system of systems' is contained within the following:

System for attracting capital resources
FGTS—Guarantee Fund for Time of Service
SBPE—Brazilian Savings and Loans System
Induced Savings—Voluntary Savings Campaign (with incentives from BNH)

System of agents
Personnel
Promoters
Managers

Agencies
COHAB (State Housing Companies)
Co-operative Societies
Federal State Savings Banks
Real Estate Credit Association
Real Estate Saving Association
Private Banks
Mortgage banks
Military Funds
Military Clubs

System for the application of the programmes
Housing Financing System
Sanitation Financing System
Urban Development Financing System
Community Development Financing System (projected)

System of funds, guarantees and securities
Correlated with Central Bank and the Ministry of Planning

System for planning urban and local development
SERFHAU—Instrument for policies concerning Integrated/Urban and Local Development
FIPLAN—Financing system for Integrated Urban and Local Development
SIDUL—CIDUL—Information System and Data Bank for Integrated and Local Planning

many variables, some controllable by Government, and some completely independent, called for an examination of the capabilities of a computer for assisting in the speedy retrieval, and correlation of the information. The complexity of the operation is illustrated to some extent, by the schematic outline of the variables involved in *Diagram 8*. According to the design of the computer programmes, many of the variables under the control of other Government agencies could be related to the locality of a municipality.

A strategy by which the quantitative aspects of 'investment needs' for communities, and the way in which integrated local development plans can be sponsored, and used for integrating the micro-regional plans with regional development plans, is now being developed by SERFHAU.

Assistance is being provided from the Ministry of Overseas Development, UK, and the Department of Urban Design and Regional Planning, University of Edinburgh, for planning research, evaluation techniques, and training.

In 1968, the Government decided to undertake an accelerated 'programme of concentrated action' (PAC), for 400 municipalities. The municipalities were selected because of their potential as 'growth poles', or 'poles of radiation', i.e. centres from which adequate logistical support could be provided for encouraging settlement in, or penetrating, the surrounding hinterland. SERFHAU was delegated the responsibility of arranging for the preparation of the integrated development plans by private consultants or through 'Operation Rondon'.[19]

Number of urban centres and the scale of population 1950/60[20]

Population	*Number of Urban Centres*	
	1950	1960
less than 20,000	5,077	6,162
20,000 to 50,000	64	113
50,000 to 100,000	21	37
100,000 to 200,000	3	17
200,000 to 500,000	5	6
500,000 to 1,000,000	–	3
Above 1,000,000	2	2

Diagnostic studies of the towns or communities are being undertaken at three different levels:

(i) for small communities, usually in remote places, a Preliminary Report for Integrated Development is prepared by specially trained 'Operation Rondon' students, based on several universities throughout the country, who visit the communities and carry out the urban diagnosis studies;

(ii) for towns of 20,000 to 40,000 population—intermediate stage plans are prepared by planning consultants for towns with population less than 40,000;

(iii) for towns with population exceeding 40,000, comprehensive plans are prepared by consultants, and in the case of large cities, possibly by a consortium of consultants.

(iv) Metropolitan area problems are examined in their own context.

From the urban diagnosis and analysis of the information contained in each report or plan, sufficient information on the vocational and productive activity of the town, within its micro-region, and within the hierarchy of settlement, is being obtained. This will permit the formulation of a programme of action, and investment, for the town and its surrounding area. Often, the action programme will be to provide incentives for increasing productivity, or for stimulating the members of the community to engage in self-help to improve their social and economic environment, whilst other programmes will require infra-structure, industrial investment and incentives.

In this way, the existing urban nuclei of several of the currently depressed micro-regions can be transformed into a social and economic support centre for their own integrated development.

The Information Centre for Urban and Local Development, CIDUL—*Centro de Informacaoes para o Desenvolvimento Urbano e Local* was designed to support SERFHAU in

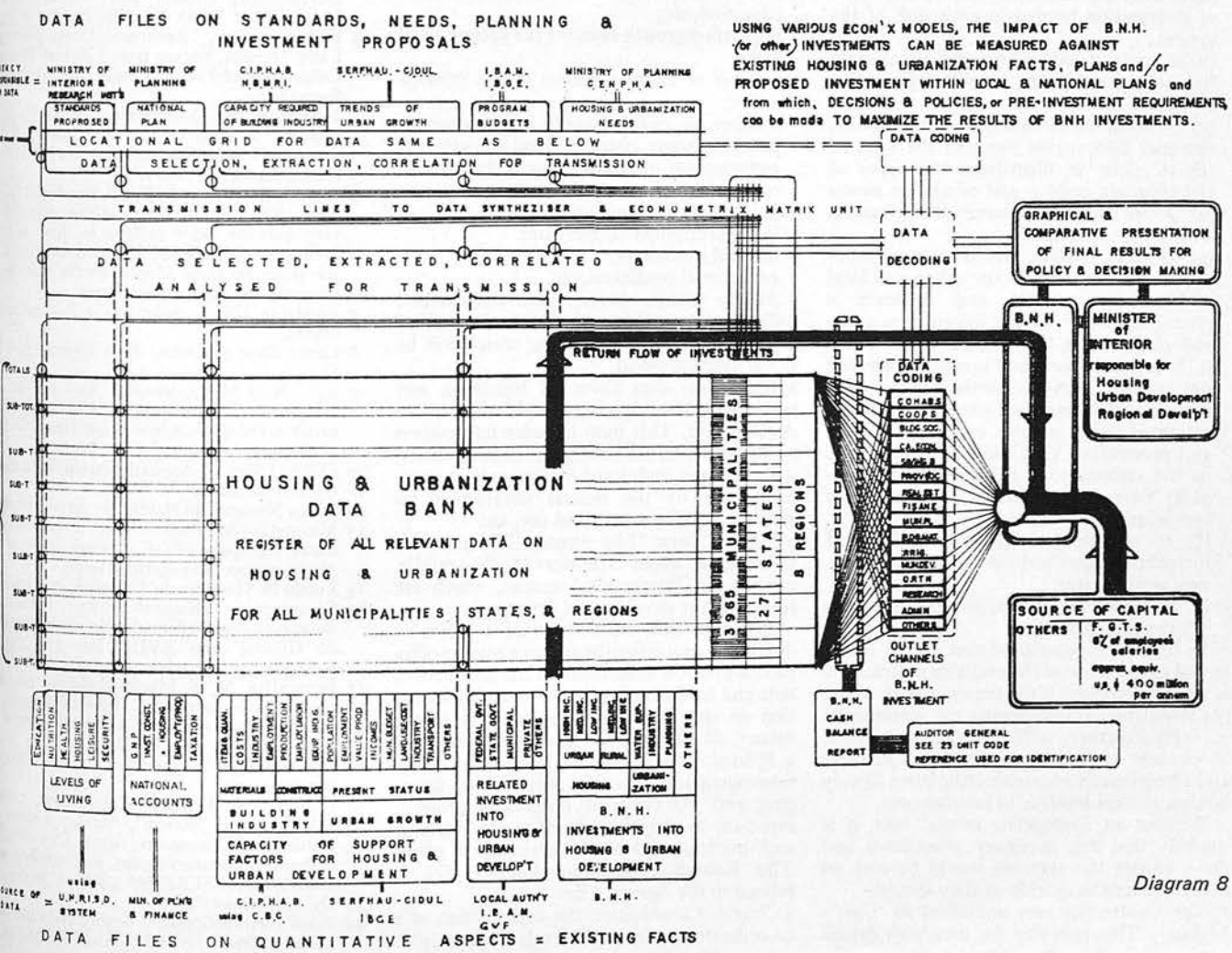


Diagram 8

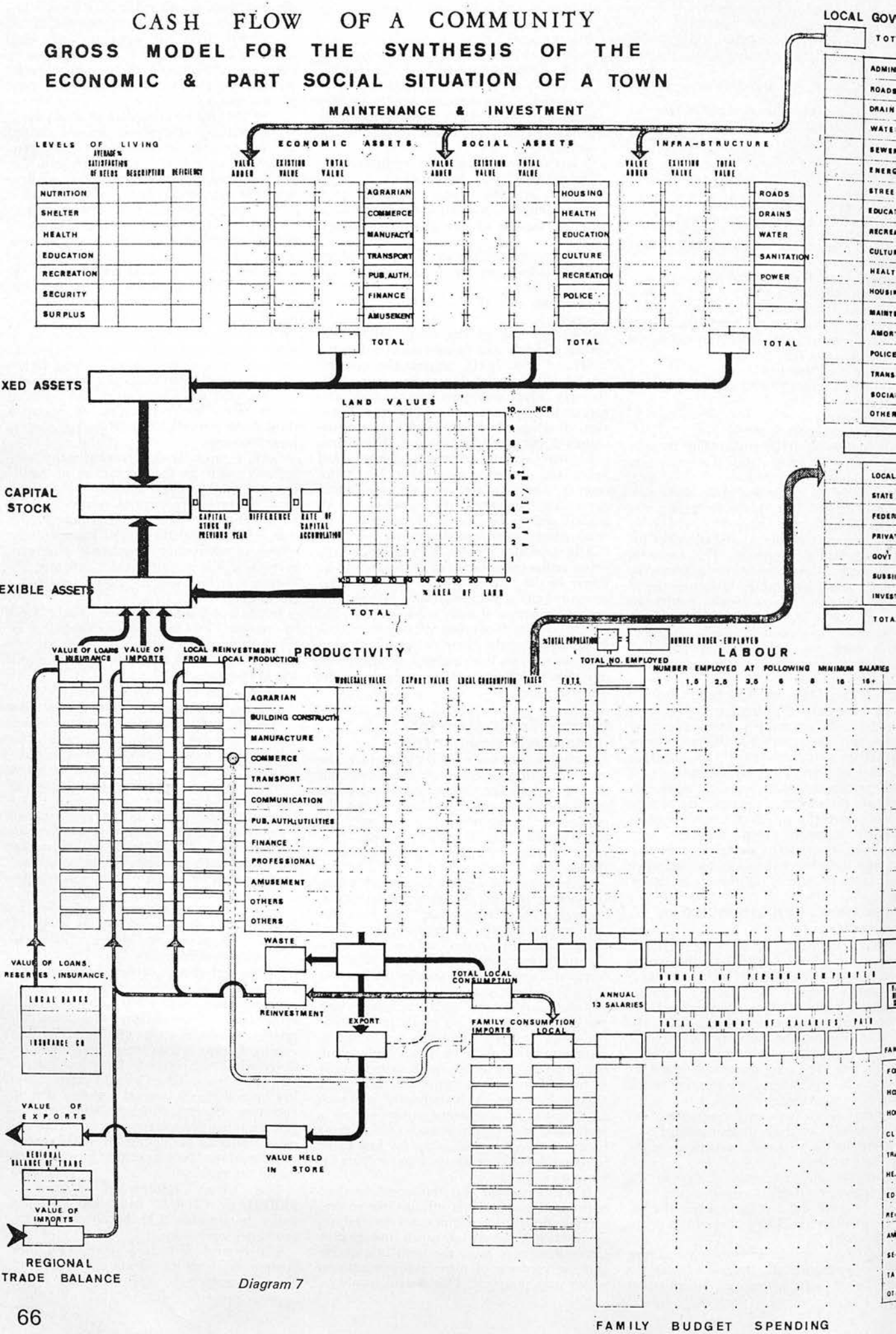

CASH FLOW OF A COMMUNITY
GROSS MODEL FOR THE SYNTHESIS OF THE ECONOMIC & PART SOCIAL SITUATION OF A TOWN
MAINTENANCE & INVESTMENT
LOCAL GOV
LEVELS OF LIVING
NUTRITION
SHELTER
HEALTH
EDUCATION
RECREATION
SECURITY
SURPLUS
ECONOMIC ASSETS
SOCIAL ASSETS
INFRA-STRUCTURE
AGRARIAN
COMMERCE
MANUFACT
TRANSPORT
PUB. AUTH.
FINANCE
AMUSEMENT
HOUSING
HEALTH
EDUCATION
CULTURE
RECREATION
POLICE
ROADS
DRAINS
WATER
SANITATION
POWER
TOTAL
FIXED ASSETS
CAPITAL STOCK
DIFFERENCE
RATE OF CAPITAL ACCUMULATION
LAND VALUES
% AREA OF LAND
FLEXIBLE ASSETS
PRODUCTIVITY
LABOUR
VALUE OF LOANS & INSURANCE
VALUE OF IMPORTS
LOCAL REINVESTMENT FROM LOCAL PRODUCTION
WHOLESALE VALUE
EXPORT VALUE
LOCAL CONSUMPTION
TAXES
F.O.T.S.
TOTAL NO. EMPLOYED
NUMBER EMPLOYED AT FOLLOWING MINIMUM SALARIES
AGRARIAN
BUILDING CONSTRUCTN
MANUFACTURE
COMMERCE
TRANSPORT
COMMUNICATION
PUB. AUTH. UTILITIES
FINANCE
PROFESSIONAL
AMUSEMENT
OTHERS
OTHERS
WASTE
TOTAL LOCAL CONSUMPTION
REINVESTMENT
EXPORT
FAMILY CONSUMPTION IMPORTS
LOCAL
ANNUAL 13 SALARIES
TOTAL AMOUNT OF SALARIES PAID
VALUE OF LOANS, RESERVES, INSURANCE
LOCAL BANKS
INSURANCE CO
VALUE OF EXPORTS
REGIONAL BALANCE OF TRADE
VALUE OF IMPORTS
REGIONAL TRADE BALANCE
VALUE HELD IN STORE
FAMILY BUDGET SPENDING

Diagram 7

its management activities, and to provide information for decisions and policy issues on urban planning. This system which collects, stores and processes information relating to data derived from existing surveys on the social, physical, and economic conditions in Brazil, has been fully operational from December 1971.

One of its main tasks is to identify, analyse, and organize the data which is collected regularly by all statistical agencies (at the national, regional, state and local levels) which may be useful in Brazilian urban policies. There is also an information centre which permits quick reference to the information, and its quick retrieval. It will not only serve as a source of reference and furnish data, but also as an instrument for assessing programmes and research related to urban and local development issues.

It is the central unit for the long-range system, which SERFHAU is now in the process of establishing and, broadly speaking, has three main functions:

1 to guide and assist in the development of the national system of urban and local planning in Brazil;
2 to assemble, maintain, process, and facilitate the use and distribution of urban and local development information; and
3 to provide facilities for specific data processing which are not available elsewhere and, in particular, to facilitate the application of planning techniques that aim to improve the decisions taken by the different agencies related, at the federal and the local levels, to the urban development process.

More specifically, the functions of the centre are:

(a) to assist in identifying the various types of information needed in each unit of the system;
(b) to assist in establishing and maintaining the objectives of the overall information system;
(c) to assist in initiating and maintaining essential information flows in the system;
(d) to assist in identifying the types of classification, coding, and tabulation necessary for an adequate exchange of information within the system;
(e) to select, collect, and process information that is essential to the urban and local development process, and maintain a reference service for the information available elsewhere in the system;
(f) to provide specialized processing services not available elsewhere in the system;
(g) to assist in avoiding unnecessary duplication of effort in data collection, storage and processing. This will involve guidance in the collection of information, in computer time sharing, and in the joint use of specialized staff;
(h) to provide training services for staff members of other units in the system, whenever appropriate;
(i) to undertake centralized research into information processing.

In Brazil it is recognized that speedy access to and efficient use of the available information is vitally important, if the present spiral, where the population is outgrowing the investments in infra-structure, while the infra-structural investment is outgrowing present planning and administrative capacities (the latter already lacking at local level) is to be overcome.

Without an appropriate central unit, it is unlikely that the necessary procedures and flows among the agencies would become an overall system as quickly as they should.

The Centre has now published its 'User's Manual'. This provides the user with details of how to use the reference system, how to request the information, and the cost of such information.

The computer output reports have already been programmed in a standard format. 'Special' output programmes can be performed, but only under very special circumstances and at the user's request, because of the high costs involved. Output reports are available in the form of typed reports, mapping through plotters, direct mapping in a standard computer printer ('SYMAP') or copies of filed documents, etc. The User's Manual also provides information (and programmes) about all operations that can be obtained with the requested data, i.e. calculation of standard deviation, variance, correlations, etc, which can be included in the output reports.

The user, with a manual such as this at his disposal, follows the following basic routine: first he consults the various directories and dictionaries which will tell him whether the data can be found in the system, then, if it can, he consults a further series of dictionaries to tell him how to proceed. If it cannot be obtained from the system, the Centre will help him to find it elsewhere.

The following information is, or will eventually be, available in the CIDUL files:

1 *Environmental Information:* This constitutes the Environmental Data file, which includes the characterization of a determined geographical unit, according to its physical, economic, social, and administrative aspects. The following are examples of items which will be included in this file;

estimates of total population in the geographical unit;
census data for population levels on income, size of family, types of activities, level of education, etc;
population growth rates for the geographical unit;
number of banking houses in the municipality;
number of establishments in the municipality: industry, commerce and services, etc;
consumption of electric power for houses, commerce, industry, public sector, etc;
number of rural properties;
local government budget data;
medical conditions;
educational conditions, etc.

All the existing items, either documented (reference) or available, are listed and classified in the consultation directories, which will be at the user's disposal.

2 *Legislation:* data about all legislation and regulations directly connected with urban development. This item includes information on all legislation concerning the municipalities, such as taxes, industrial investments in areas considered by the federal government as absolute priority areas, land use, etc.

3 *Agency Data:* The Agency File provides information about agencies in the public, private and international sectors, which are related to the development process.

Basically, this file consists of a series of directories containing the agency name, its official abbreviation, subordination and jurisdiction, data and legal act of its creation, and information on the data processing capacity of the agency, all set out in the most convenient way.

4 *Related Programmes:* information about investment and financing programmes, financing and execution of plans and projects, especially as they are related to the planning and implementation of development plans. The Related Programme File is directly related to the Agency File.

5 *Spatial Co-ordinates:* the construction of a co-ordinate system at all levels of geographic units, utilized by CIDUL: country, physiographic region, state, physiographic area, metropolitan area, municipality, PNAD region (sample surveys), regional superintendency, homogeneous micro-region, NODAL area, minimal area of comparison, district and census sector. This file will make possible those types of mapping and graphic analysis necessary to urban planning.

The mapping and the graphic analyses, using the co-ordinates, can be done in three different ways: namely, by conventional drawing; by drawing produced by a plotter, connected to the computer system; and by graphic presentation straight from the computer printer, using the 'SYMAP'.

6 *Information about development programmes:* this file includes the development programmes of local areas which are being studied, or financed by SERFHAU, particularly when there is an interest in keeping historical and updated information about them, as well as information on the development of a predetermined area of interest.

7 *Planning Techniques File:* CIDUL maintains a register containing an account of planning methods, techniques and systems such as demographic studies, regional accounts, priorities, factor analyses, development monitoring etc, which can be applied in Brazil.

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